Microsoft

PL-400

Microsoft Power Platform Developer (beta**)**

Exam Topic: Create a technical design

Testlet 1

Case study
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Background
Bellows Sports is the region’s newest, largest, and most complete sports complex. The company features baseball and soccer fields and two full-size hockey rinks. The complex provides coaching, recreational leagues, a pro shop, and state-of-the art customer and player amenities.
The company is organized into the following divisions:

- Baseball
- Hockey
- Soccer

Bellow Sports runs tournaments several times per year. Each tournament runs six weeks.

Current environment

Requirements
Bellow Sports tracks players and events in Microsoft Excel workbooks and uses email to communicate with players, partners, and prospective customers. The company uses a proprietary cloud-based accounting system.

The company relies on referrals from athletes for new business. Bellows uses a third-party marketing company to gather feedback and referrals from athletes. The third-party marketing company uploads a Microsoft Excel file containing lists of potential customers and players to the FTP site that Bellows Sports maintains.

Tournaments
Customer information is stored in the Accounts entity. Each tournament record must list the associated sales representative as the tournament owner. When team members create tournament records they must enter the start date for a tournament. The end date of the tournament must be automatically calculated.

Registration form
You must create a form to allow players to register for tournaments. The registration form must meet the following requirements:

Division	Requirement
Baseball	Capture the age and weight of the player. The height field must not display.
Hockey	Capture the age, height, and weight of the player.
Soccer	Capture the age of the player. The height and weight fields must not display.

- Each division has tournaments that take place in specific locations. Users must be able to select the division for a tournament location.
- Information about upcoming tournaments must be pre-located into the registration form when the registration form loads.
- The form must include a custom button that sends an email confirmation to the player after the player registers.
- The button must not be visible until after the form is saved.

Security
The company identifies the following job roles:

Role	Tasks
Sales representative	These users will enter data into Dynamics 365 Customer Service.
Intern	These users will create Power Apps apps, and connectors, and create Power Automate flows.
Manager	These users will add users, assign security roles, and manage data storage.

You must grant users the minimum permissions required to perform their job tasks.

Data automation
- Customer name must be added to Dynamics 365 Finance automatically after it is entered.
- You must produce a report that details the number of registrations for a day and send the report as a PDF to the management team.
- You must implement mechanisms to handle all code-related errors.
- When a customer record is updated, the system must look up the account number for the customer in the accounting system.
- Referrals must be imported into the system as soon as they are available.

Issues Apps
- The captions for the New and Save buttons do not render properly on the form.
- Interns can create apps but cannot interact with their own data.

Portal
The query for all registered users must return the data categorized by division. Queries must return only the Name and Sport fields. Queries return all fields. The query is as follows:

```
GET [Organization URI]/api/data/v9.1/accounts?
&$orderby=Name, sport
&$filter=sport ne null
```

Solution checker issues
You run solution checker and observe Plug-in or workflow activity errors in the following code sets:

Set	Code	Error message
Code set 1	CS101 var columns = new ColumnSet(); CS102 columns.AllColumns = true; CS103 var query = new QueryExpression(“account”); CS104 query.ColumnSet = columns; CS105 var results = service.RetrieveMultiple(query);	il-specify-column
Code Set 2	CS201 WebRequest request = WebRequest.Create (“https://www.bellows.com/api/stuff”); CS202 HttpWebResponse response = new HttpWebResponse(); CS203 CS204 respone = request.GetResponse(); CS205 response.Close();	il-turn-off-keepalive

Code
The following code runs when the registration form loads. You must implement a mechanism to handle errors that occur in the code:

```
UpdateRecord.js (Line numbers are included for reference only.)

UR01
UR02 var data =
UR03      {
UR04        “name” : “Updated Account”
            “creditonhold” : true,
            “description” : “This is an account update”,
            “revenue” : 10,000,
            “Division” : 2
          }
UR05 . . .
UR06
```

QUESTION: 1
DRAG DROP
You need to select connectors for the app.

Which types of connectors should you use? To answer, drag the appropriate connectors to the correct requirements. Each connector may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content. NOTE: Each correct selection is worth one point. Select and Place:

Exhibit A:

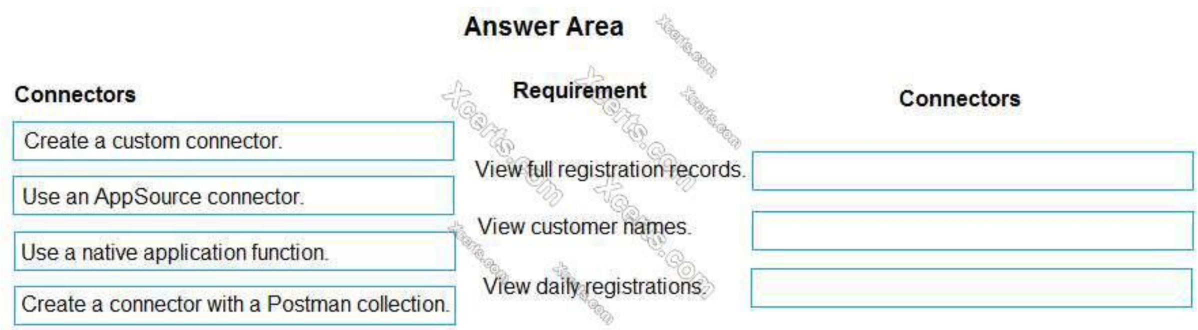
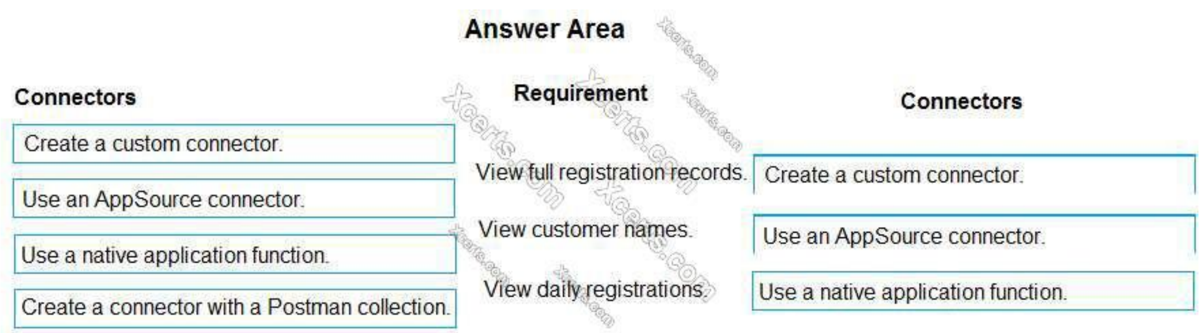


Exhibit B:



A. Please refer to Exhibit B for the answer.

Answer(s): A

Explanation:
Box 1: Create a custom connector
A custom connector is a wrapper around a REST API (Logic Apps also supports SOAP APIs) that allows Logic Apps, Power Automate, or Power Apps to communicate with that REST or SOAP API.

Box 2: Use an AppSource connector
You can only retrieve the Customer, UnifiedActivity, and Segments entities through the Power Apps connector. Other entities are shown because the underlying connector supports them through triggers in Power Automate.

Scenario: Customer information is stored in the Accounts entity. Box 3: Use a native application function
You must produce a report that details the number of registrations for a day and send the report as a PDF to the management team.

Reference:
https://docs.microsoft.com/en-us/connectors/custom-connectors/
https://docs.microsoft.com/en-us/dynamics365/customer-insights/audience-insights/export-power-apps

Testlet 2

Case study
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Background

Current environment
Adventure Works Cycles wants to replace their paper-based bicycle manufacturing business with an efficient paperless solution. The company has one manufacturing plant in Seattle that produces bicycle parts, assembles bicycles, and distributes finished bicycles to the Pacific Northwest.

Adventure Works Cycles has a retail location that performs bicycle repair and warranty repair work. The company has six maintenance vans that repair bicycles at various events and residences.

Adventure Works Cycles recently deployed Dynamics 365 Finance and Dynamics 365 Manufacturing in a Microsoft-hosted environment for financials and manufacturing. The company plans to leverage the Microsoft Power Platform to migrate all of their distribution and retail workloads to Dynamics 365 Unified Operations.

The customer uses Dynamics 365 Sales. Dynamics 365 Customer Service and Dynamics 365 Field Service.

Retail store information
Adventure Works Cycle has one legal entity, four warehouses, and six field service technicians. Warehouse counting is performed manually by using a counting journal. All warehouse boxes and items are barcoded.

- Adventure Works Cycle has one legal entity, four warehouses, and six field service technicians.
- Warehouse counting is performed manually by using a counting journal. All warehouse boxes and items are barcoded.
- The Adventure Works Cycles retail location performs bicycle inspections and performance tune-ups.
- Technicians use paper forms to document the bicycle inspection performed before a tune-up and any additional work performed on the bicycle.
- Adventure Works Cycles uses a Power Apps app for local bike fairs to attract new customers.
- A canvas app is being developed to capture customer information when customers check in at the retail location. The app has the following features:
  - Customer selects yes or no if they are on the mailing list.
  - Customer selects the amount of times they have visited the store.
  - Customer selects the type of service needed.
  - The search result returns all last name records that match the search term.

Technology

Requirements

- A plug-in for Dynamics 365 Sales automatically calculated the total billed time from all activities on a particular customer account, including sales representative visits, phone calls, email correspondence, and repair time compared with hours spent.
- A shipping API displays shipping rates and tracking information on sales orders. The contract allows for 3,000 calls per month.
- Ecommerce orders are processed in batch daily by using a manual import of sales orders in Dynamics 365 Finance.
- Microsoft Teams is used for all collaboration.
- All testing and problem diagnostics are performed in a copy of the production environment.
- Customer satisfaction surveys are recorded with Microsoft Forms Pro. Survey replies from customers are sent to a generic mailbox.

Automation

- A text message must be automatically sent to a customer to confirm an appointment and to notify when a technician is on route that includes their location.
- Ecommerce sales orders must be integrated into Dynamics 365 Finance and then exported to Azure every night.
- A text alert must be sent to employees scheduled to assist in the repair area of the retail store if the number of repair check-ins exceeds eight.
- Submitted customer surveys must generate an email to the correct department. Approval and follow-up must occur within a week.

Reporting

- The warehouse manager’s dashboard must contain warehouse counting variance information.
- A warehouse manager needs to quickly view warehouse KPIs by using a mobile device.
- Power BI must be used for reporting across the organization.

User experience

- Warehouse counting must be performed by using a mobile app that scans barcodes on boxes.
- All customer repairs must be tracked in the system no matter where they occur.
- Qualified leads must be collected from local bike fairs.

Issues

- Warehouse counting must be performed by using a mobile app that scans barcodes on boxes.
- All customer repairs must be tracked in the system no matter where they occur.
- Qualified leads must be collected from local bike fairs.

Internal

- User1 reports receives an intermittent plug-in error when viewing the total bill customer time.
- User2 reports that Azure consumption for API calls has increased significantly to 100 calls per minute in the last month.
- User2 reports that sales orders have increased.
- User5 receives the error message: ‘Endpoint unavailable’ during a test of the technician dispatch ISV solution.
- The parts department manager who is the approver for the department is currently on sabbatical.

External

- CustomerB reports that the check-in app returned only one search result for their last name, which is not the correct name.
- Nine customers arrive in the repair area of the retail store, but no texts were sent to scheduled employees.
- Customers report that the response time from the information email listed on the Adventure Works Cycles website is greater than five days.
- CustomerC requested additional information from the parts department through the customer survey and has not received a response one week later.

QUESTION: 1
You need to improve warehouse counting efficiency. What should you create?

A. a flow that updates the warehouse counts as the worker performs the count
B. a model-driven app that allows the user to key in inventory counts
C. A Power BI dashboard that shows the inventory counting variances
D. a canvas app that scans barcodes to allow a warehouse worker to select inventory counts

Answer(s): D

Explanation:
Scenario: Warehouse counting is performed manually by using a counting journal. All warehouse boxes and items are barcoded.

QUESTION: 2
You need to replace the bicycle inspection forms.

Which two solutions should you use? Each answer presents part of the solution.
NOTE: Each correct selection is worth one point.

A. a flow that maps inspection data to Dynamics 365 Field Service
B. a logic app that guides the technician through the inspection
C. a canvas app that guides the technician through the inspection
D. a model-driven app based on customer service entities

Answer(s): A, D

Explanation:
Scenario: The Adventure Works Cycles retail location performs bicycle inspections and performance tune-ups. Technicians use paper forms to document the bicycle inspection performed before a tune-up and any additional work performed on the bicycle.

A: The Dynamics 365 Field Service business application helps organizations deliver onsite service to customer locations. The application combines workflow automation, scheduling algorithms, and mobility to set mobile workers up for success when they're onsite with customers fixing issues.

D: Compared to canvas apps, model-driven apps in PowerApps are based on underlying data — specifically, the data stored in Common Data Service (CDS). All model-driven apps are integrated into CDS. In fact, most Microsoft apps are integrated into CDS because most Microsoft apps, including the entire Dynamics 365 (D365) platform, are model-driven apps.

Incorrect Answers:
B: An Azure Logic App would not be fit for scale. Azure Logic Apps is a cloud service that helps you schedule, automate, and orchestrate tasks, business processes, and workflows when you need to integrate apps, data, systems, and services across enterprises or organizations.

Reference:
https://docs.microsoft.com/en-us/dynamics365/field-service/overview https://global.hitachi-solutions.com/blog/canvas-vs-model-driven-apps

Exam Topic: Create a technical design questions

QUESTION: 1
You are building a custom application in Azure to process resumes for the HR department. The app must monitor submissions of resumes.
You need to parse the resumes and save contact and skills information into the Common Data Service. Which mechanism should you use?

A. Power Automate
B. Common Data Service plug-in
C. Web API
D. Custom workflow activity

Answer(s): A

Explanation:
Improve operational efficiency with a unified view of business data by creating flows that use Dataverse (Common Data Service has been renamed to Microsoft Dataverse as of November 2020).

For example, you can use Dataverse within Power Automate in these key ways:
Create a flow to import data, export data, or take action (such as sending a notification) when data changes. Instead of creating an approval loop through email, create a flow that stores approval state in an entity, and then build a custom app in which users can approve or reject items.

Reference:
https://docs.microsoft.com/en-us/power-automate/common-data-model-intro

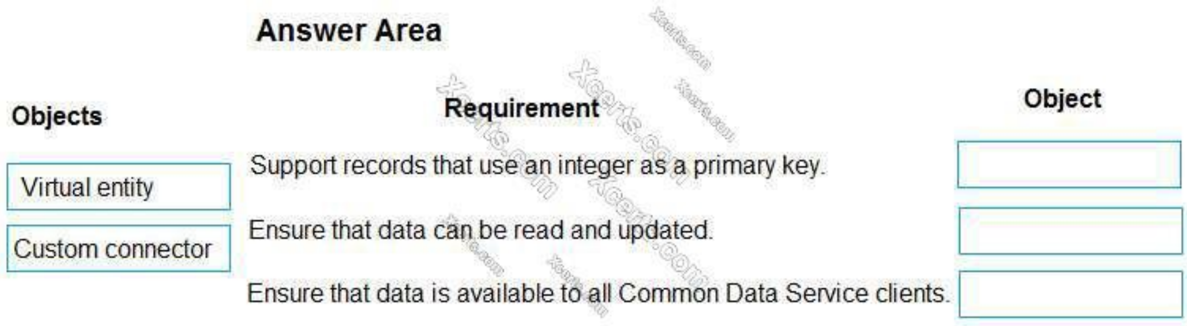
QUESTION: 2
DRAG DROP
You are researching integrations with several external systems. Each integration has different requirements.

You need to determine which data sources to use to meet each requirement.

What should you use? To answer, drag the appropriate data sources to the correct requirements. Each data source may be used once, more than one, or not at all. You may need to drag the split bar between panes or scroll to view content.

NOTE: Each correct selection is worth one point.
Select and Place:

Exhibit A:



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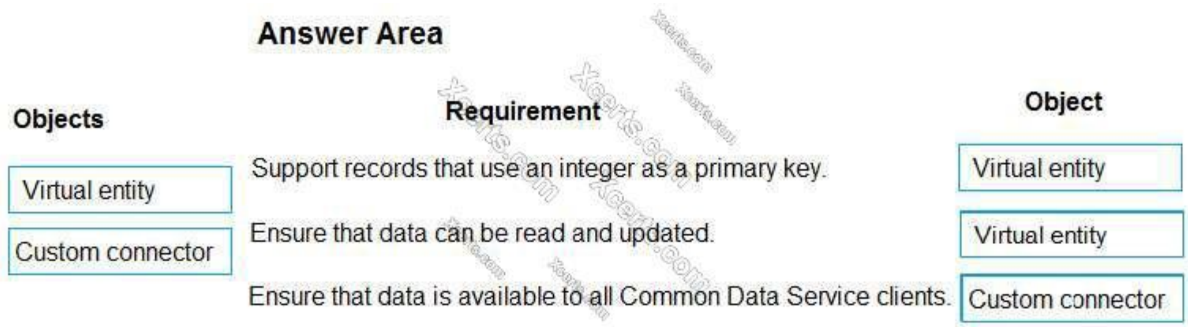


A. Please refer to Exhibit B for the answer.

Answer(s): A

Explanation:
Box 1: Virtual entity
Initially, defining a virtual entity is the same as defining a custom entity: you specify the entity, attributes, and relationships for the new virtual entity type.
You can use GUIDs as primary keys in the external data source.

Box 2: Virtual entity
Virtual entities enable the integration of data residing in external systems by seamlessly representing that data as entities in Microsoft Dataverse (Common Data Service), without replication of data and often without custom coding. Virtual entities support create, updates and delete of data in the external system.

Box 3: Custom connector
A custom connector is a wrapper around a REST API (Logic Apps also supports SOAP APIs) that allows Logic Apps, Power Automate, or Power Apps to communicate with that REST or SOAP API.

Reference:
https://docs.microsoft.com/en-us/powerapps/developer/common-data-service/virtual-entities/get-started-ve

QUESTION: 3

A company manages capital equipment for an electric utility company. The company has a SQL Server database that contains maintenance records for the equipment.

Technicians who service the equipment use the Dynamics 365 Field Service mobile app on tablet devices to view scheduled assignments. Technicians use a canvas app to display the maintenance history for each piece of equipment and update the history.

Managers use a Power BI dashboard that displays Dynamics 365 Field Service and real-time maintenance data.

Due to increasing demand, managers must be able to work in the field as technicians.
You need to design a solution that allows the managers to work from one single screen. What should you do?

A. Add the maintenance history app to the Field Service Mobile app.
B. Add the manager Power BI dashboard to the Field Service mobile app.
C. Create a new maintenance canvas app from within the Power BI management dashboard.
D. Add the maintenance history app to the Power BI dashboard.

Answer(s): D

Explanation:
Power BI enables data insights and better decision-making, while Power Apps enables everyone to build and use apps that connect to business data. Using the Power Apps visual, you can pass context-aware data to a canvas app, which updates in real time as you make changes to your report. Now, your app users can derive business insights and take actions from right within their Power BI reports and dashboards.

Reference:
https://docs.microsoft.com/en-us/powerapps/maker/canvas-apps/powerapps-custom-visual

QUESTION: 4
HOTSPOT
You work for a staffing company that helps employees fill temporary jobs. Available temporary jobs are categorized and listed on a secure area of the company's website.

The company wants to eliminate manual work that relates to job and candidate management. The company plans to invite employers with available jobs and job candidates to view jobs by sending personalized invitations. The company identifies the following requirements:

- Human resources team members from the staffing company must be able to access the jobs listing and post available positions.
- Employers seeking temporary employees must also be able to access the jobs listing and post available positions.
- Approved job candidates must be notified about new positions for which they are qualified.
- Approved job candidate must have an option to accept a job assignment directly from a notification.

You need to perform a gap analysis against the features and capabilities of the Power Platform. Which features should you implement? To answer, select the appropriate options in the answer area. NOTE: Each correct selection is worth one point.
Hot Area:

Exhibit A:

Answer Area

Requirement	Feature
Create the job listings portal.	Custom self-service portal for employers and a custom page for job candidates Custom self-service portal for both employers and job candidates Portal for job candidates and a custom self-service portal for employers Portal from blank for job candidates and employers
Create an app that lists available positions.	Canvas app with push notifications Model-driven app with push notifications Portal app with push notifications
Create the app for employers who are seeking temporary employees.	Entity from defined on the job custom entity Webform with target set to the job custom entity Web page defined on the job custom entity Web step with target set to the job custom entity
Create invitation parameters for job candidates.	Configure a value for the Assigned to Account option only. Configure a value for the Execute Workflow on Redeeming Contact option only. Configure values for Assigned to Account and Execute Workflow on Redeeming Contact. Leave both Assigned to Account and Execute Workflow on Redeeming Contact empty.
Create invitation parameters for approved job candidates.	Configure a value for the Assigned to Account option only. Configure a value for the Execute Workflow on Redeeming Contact option only. Configure values for Assigned to Account and Execute Workflow on Redeeming Contact. Leave both Assigned to Account and Execute Workflow on Redeeming Contact empty.

Exhibit B:

Answer Area

Requirement	Feature
Create the job listings portal.	Custom self-service portal for employers and a custom page for job candidates Custom self-service portal for both employers and job candidates Portal for job candidates and a custom self-service portal for employers Portal from blank for job candidates and employers
Create an app that lists available positions.	Canvas app with push notifications Model-driven app with push notifications Portal app with push notifications
Create the app for employers who are seeking temporary employees.	Entity from defined on the job custom entity Webform with target set to the job custom entity Web page defined on the job custom entity Web step with target set to the job custom entity
Create invitation parameters for job candidates.	Configure a value for the Assigned to Account option only. Configure a value for the Execute Workflow on Redeeming Contact option only. Configure values for Assigned to Account and Execute Workflow on Redeeming Contact. Leave both Assigned to Account and Execute Workflow on Redeeming Contact empty.
Create invitation parameters for approved job candidates.	Configure a value for the Assigned to Account option only. Configure a value for the Execute Workflow on Redeeming Contact option only. Configure values for Assigned to Account and Execute Workflow on Redeeming Contact. Leave both Assigned to Account and Execute Workflow on Redeeming Contact empty.

A. Please refer to Exhibit B for the answer.

Answer(s): A

Explanation:
Box 1: Custom self-service portal for both employers and job candidates
If you select an environment that contains customer engagement, you can create the following portals:

- Customer self-service portal: A customer self-service portal enables customers to access self-service knowledge, support resources, view the progress of their cases, and provide feedback.
- Partner portal: A partner portal allows every organization with resellers, distributors, suppliers, or partners to have real-time access to every stage of shared activities.

- Employee self-service portal: An employee self-service portal creates an efficient and well-informed workforce by streamlining common tasks and empowering every employee with a definitive source of knowledge.

Box 2: Model-driven app with push notifications
Compared to canvas apps, model-driven apps in PowerApps are based on underlying data — specifically, the data stored in Common Data Service (CDS).

Box 3: Webform with target set to the job custom entity

Box 4: Configure a value for the Execute Workflow on Redeeming Contact option only.

Execute Workflow on Redeeming Contact: A workflow process to be executed when the invite is redeemed. The workflow will be passed the redeeming contact as the primary entity.

Box 5: Configure the value for the Assigned to Account option only.
Assign to Account: An account record to be associated as the redeeming contact's parent customer when the invite is redeemed.

Reference:
https://docs.microsoft.com/en-us/powerapps/maker/portals/portal-templates
https://global.hitachi-solutions.com/blog/canvas-vs-model-driven-apps
https://docs.microsoft.com/en-us/powerapps/maker/portals/configure/invite-contacts#invitation-attributes

QUESTION: 5
HOTSPOT
You create a suite of Power Platform-based order management canvas apps for a bakery that has five retail stores. Each store uses a tablet device to manage inventory and process orders.

You need to make the following changes to the original order tracking app:

- When an online order for delivery is received, send the order to the bakery that is located closest to the order destination.
- When an online order for pickup is received, require store staff to enter an estimated time in an app. Staff must prepare the order and then use the app to notify the customer when the order is ready.
- Allow the store manager to personalize the company’s corporate weekly newsletter and add store-specific specials.

You must minimize the amount of custom code and configuration required to implement the solution. What should you use? To answer, select the appropriate options in the answer area.
NOTE: Each correct selection is worth one point.
Hot Area:

Exhibit A:

Answer Area

Requirement	Implementation option
Determine which store is closest to the order destination.	Power Automate flow Plug-in Logic app
Estimate the time required to prepare an order and notify the customer.	New screen in an existing order canvas app New canvas app New logic app
Send the newsletter by email to customers.	Power Automate flow triggered from an email button Power Automate flow triggered manually Power Automate UI flow triggered from an email button

Exhibit B:

Answer Area

Requirement	Implementation option
Determine which store is closest to the order destination.	Power Automate flow Plug-in Logic app
Estimate the time required to prepare an order and notify the customer.	New screen in an existing order canvas app New canvas app New logic app
Send the newsletter by email to customers.	Power Automate flow triggered from an email button Power Automate flow triggered manually Power Automate UI flow triggered from an email button

A. Please refer to Exhibit B for the answer.

Answer(s): A

Explanation:
Box 1: Power Automate flow

Do you want to get the user's location whose location is closest to the current device, then use key is to use Bing Map connector.

The Bing Map connector is available in the following products and regions:

Service	Class	Regions
Logic Apps	Standard	All Logic Apps regions except the following: - Azure China regions
Power Automate	Standard	All Power Automate regions except the following: - US Government (GCC High) - China Cloud operated by 21Vianet
Power Apps	Standard	All Power Apps regions except the following: - US Government (GCC High) - China Cloud operated by 21Vianet

Box 2: New screen in an existing canvas app
Box 3: Power Automate flow triggered from an email button Incorrect Answers:
UI flows brings Robotic Process Automation (RPA) capabilities to Power Automate. You can use UI flows to automate repetitive tasks in Windows and Web applications. UI flows records and plays back user interface actions (clicks, keyboard input, etc.)

Reference:
https://docs.microsoft.com/sv-se/connectors/bingmaps/

QUESTION: 6
A company has an application that provides API access. You plan to connect to the API from a canvas app by using a custom connector.

You need to request information from the API developers so that you can create the custom connector. Which two types of files can you use? Each correct answer presents a complete solution.
NOTE: Each correct selection is worth one point.

A. YAML
B. WSDL
C. OpenAPI definition
D. Postman collection

Answer(s): C, D

Explanation:
OpenAPI definitions or Postman collections can be used to describe a custom connector.

Reference:

https://docs.microsoft.com/en-us/connectors/custom-connectors/faq

QUESTION: 7
You plan to create a canvas app to manage large sets of records. Users will filter and sort the data. You must implement delegation in the canvas app to mitigate potential performance issues.
You need to recommend data sources for the app.

Which two data sources should you recommend? Each correct answer presents a complete solution.
NOTE: Each correct selection is worth one point.

A. SQL Server
B. Common Data Service
C. Azure Data Factory
D. Azure Table Storage

Answer(s): A, C

Explanation:
When you are creating reports from large data sources (perhaps millions of records), you want to minimize network traffic.
Working with large data sets requires using data sources and formulas that can be delegated. It's the only way to keep your app performing well and ensure users can access all the information they need. Delegation is supported for certain tabular data sources only.

These tabular data sources are the most popular, and they support delegation: Common Data Service
SharePoint SQL Server

Reference:
https://docs.microsoft.com/en-us/powerapps/maker/canvas-apps/delegation-overview

QUESTION: 8
HOTSPOT
A client is deploying Dynamics 365 Finance without any third-party add-ons. You need to select the appropriate solutions for the client.

What should you select? To answer, select the appropriate options in the answer area.
NOTE: Each correct selection is worth one point.
Hot Area:

Exhibit A:

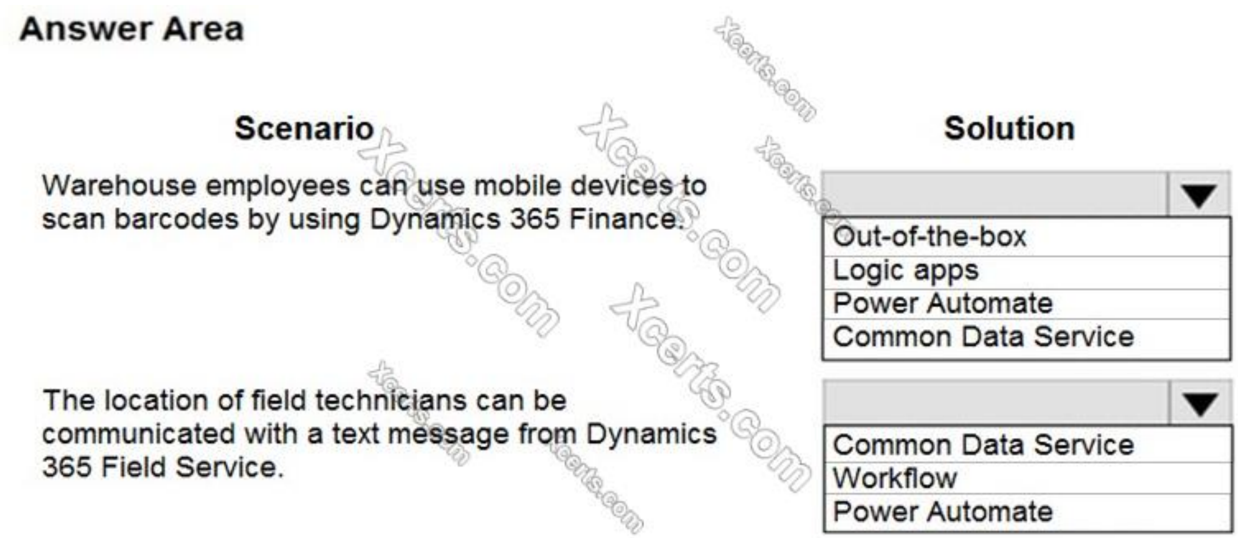
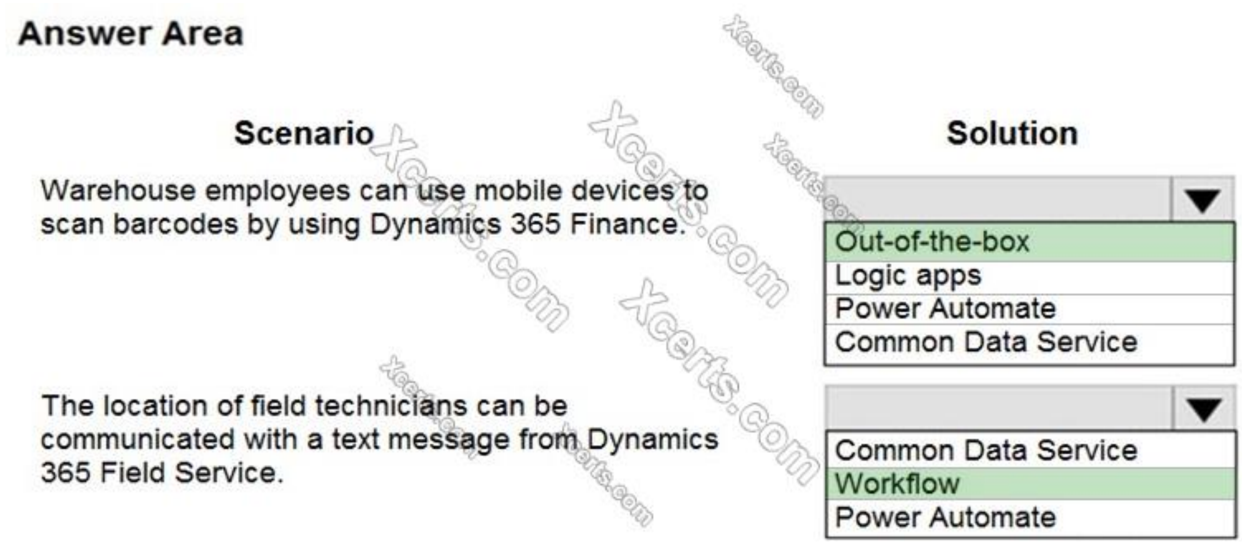


Exhibit B:



A. Please refer to Exhibit B for the answer.

Answer(s): A

Explanation:
Box 1: Out-of-the-box
Box: 2: Workflow

Reference:
https://docs.microsoft.com/en-us/dynamics365/field-service/mobile-power-app-system-barcode-scanning
https://docs.microsoft.com/en-us/power-automate/replace-workflows-with-flows

QUESTION: 9
DRAG DROP
A company uses Microsoft 365. You are developing a model-driven app.

The app must meet the following requirements:

- Use SharePoint Online for document storage.
- Send emails by using Exchange Online.

You need to configure integrations.

What should you configure? To answer, drag the appropriate configuration options to the correct requirements. Each configuration option may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.

NOTE: Each correct selection is worth one point.
Select and Place:

Exhibit A:

Exhibit B:

A. Please refer to Exhibit B for the answer.

Answer(s): A

Explanation:
Box 1: Server-side syncrhonization

Configure default email processing and synchronization: set server-side synchronization to be the default configuration method for newly created users.

Box 2: Server-side integration.
If your organization is already using document management with Microsoft Dynamics CRM List Component, you must switch to server-based SharePoint integration.
If your organization has not deployed document management, when a System Administrator logs in an alert message will be displayed to enable server-based SharePoint integration.

QUESTION: 10
A company plans to create an order processing app. When orders are created, the app will perform complex business logic and integrate with several external systems.

Orders that have a large number of line items may take up to six minutes to complete. Processing for each order must be completed in one operation to avoid leaving records in an incomplete state.

You need to recommend a solution for the company. What should you recommend?

A. an asynchronous workflow that uses a custom workflow activity
B. a real-time workflow that uses a custom action
C. a webhook that connects to an Azure Function
D. an asynchronous plug-in

Answer(s): B

Explanation:
Real-time Workflows roll back all changes if it fails. As the Workflow is going through the process itself, if it fails, it will roll back all of the prior steps taken.

Incorrect Answers:
A: With Background Workflows, actions will not roll back if it fails. All changes are up-to-date until the failure occurs. The workflow will stop at this point due to the failure.

Reference:
https://ledgeviewpartners.com/blog/what-are-the-differences-between-real-time-and-background-workflows-in-microsoft-dynamics-365-crm/

QUESTION: 11
HOTSPOT
You work for a not-for-profit agency that manages business processes by using Power Platform custom entities.

Volunteer registration and onboarding are manual processes that include multiple related entities. You need to implement a portal solution that replaces the manual processes.
Which modules should you use? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.
Hot Area:

Exhibit A:

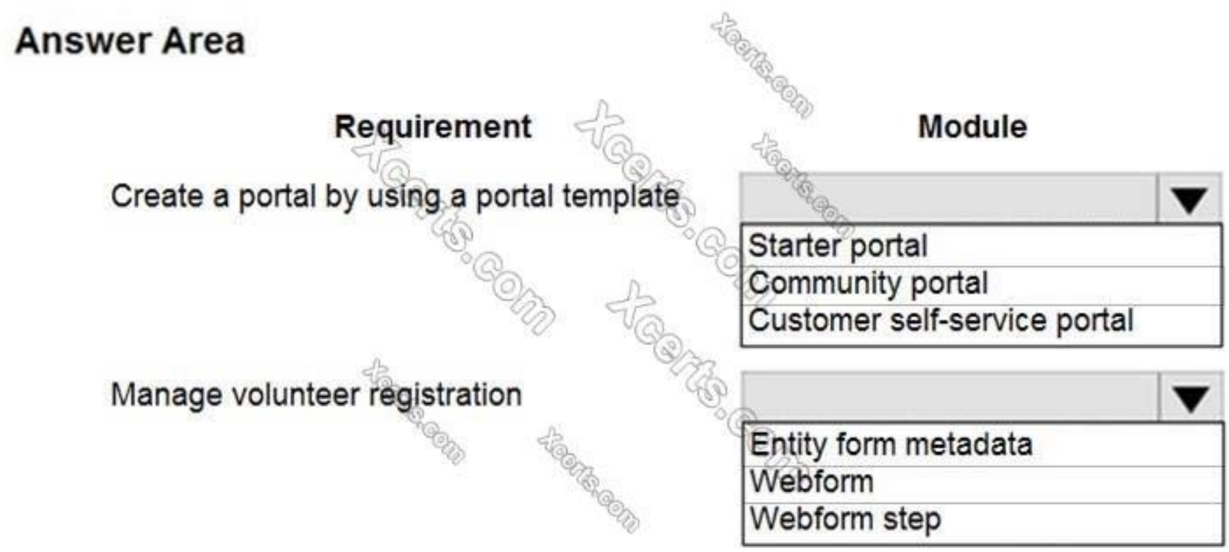
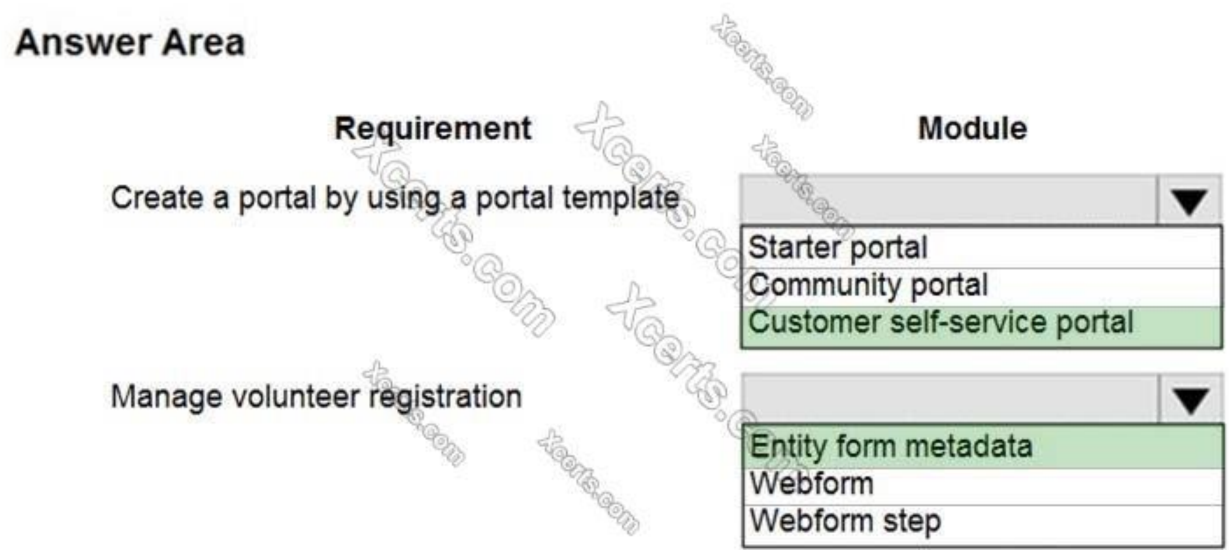


Exhibit B:



A. Please refer to Exhibit B for the answer.

Answer(s): A

Explanation:
Box 1: Customer self-service portal
Customer self-service portal: A customer self-service portal enables customers to access self-service knowledge, support resources, view the progress of their cases, and provide feedback.

Incorrect Answers:

Community portal: A community portal leverages peer-to-peer interactions between customers and experts to organically grow the catalog of available knowledge from knowledge base articles, forums, and blogs as well as providing feedback through comments and ratings.
Starter portal: If you select an environment that contains Microsoft Dataverse, you can create a Dataverse starter portal. The Dataverse starter portal comes with the sample data for you to quickly get started. It also has the following built-in sample pages:

Default studio template Page with title
Page with child links

Box 2: Entity form metadata
The Advanced Form Metadata contains additional behavior modification logic to augment or override the functionality of form fields that is otherwise not possible with native basic form editing capabilities.

Reference:
https://docs.microsoft.com/en-us/powerapps/maker/portals/portal-templates
https://docs.microsoft.com/en-us/powerapps/maker/portals/configure/configure-web-form-metadata

QUESTION: 12
You are implementing custom business logic in a Power Apps portal. You need to use Liquid templates to display dynamic content.
To which three entities can you include Liquid code? Each correct answer presents a complete solution.

NOTE: Each correct selection is worth one point.

A. Content snippet
B. Web page
C. Web template
D. Page template
E. Portal settings

Answer(s): B, C, D

Explanation:
Liquid is an open-source template language integrated into portals. It can be used to add dynamic content to pages, and to create a wide variety of custom templates. Using Liquid, you can:

- Add dynamic content directly to the Copy field of a webpage or the content of a content snippet.
- Store source content by using web templates, entirely through configuration within Power Apps, for use throughout the Power Apps portals content management system.
- Render a website header and primary navigation bar, entirely through configuration within Power Apps.

Note: page is one of the available liquid objects.

Reference:

https://docs.microsoft.com/en-us/powerapps/maker/portals/liquid/liquid-overview
https://docs.microsoft.com/en-us/powerapps/maker/portals/liquid/liquid-objects#page

Exam Topic: Configure Common Data Service

Testlet 1

Case study
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Background

Contoso Pharmaceuticals manufactures and sells drugs to retail and wholesale pharmacies, hospitals, and research facilities.

The company plans to implement Dynamics 365 Sales and Dynamics 365 Finance.

Current environment
- Contoso maintains a Microsoft Excel workbook that lists all drugs they supply.
- Pharmacies submit order requests through email.
- All information at customer locations is handwritten by customer representatives.
- Contoso uses Cerner, which is a medical industry application that uses a proprietary database.
- Some accounts are referrals from other pharmacies.
- Every pharmacy has its own Dynamics 365 Sales instance.

Requirements

General
Contoso wants to ensure that there is minimal custom code and custom connectors in the system.

Accounts

- Ensure that the names of the pharmacies are synced between the accounting and the customer management systems.
- Account numbers should be entered automatically into the pharmaceutical system that is in a Cerner database and kept in sync.
- When the account is entered into the system, extra fields must appear if the referral customer box is selected. If the box is not selected, the extra fields must not appear.
- A trigger must be created that changes the Priority field to 1 in the Account record 10 days after an Account record is created.
- A field named Priority_Trigger must be created to trigger the Priority field.
- A field named Facility type field must be added in order to select whether a customer is a retail pharmacy, wholesale pharmacy, research facility, or hospital.

Users

- UserA must be able to create and publish Power Apps apps.
- UserB must be the owner of all the systems and be able to provide permissions and create all new environments.
- UserC must be able to create apps connected to the systems and update the security roles and entities. Pharmacy representatives must only be able to run the apps and access their own records.
- Access to the accounting Power Apps app must be restricted to accounting team members.
- End users must have minimum access to the required systems.
- Only supervisors must be able to view phone numbers in the Accounts form.
- Developers must be able to create new apps for all users.
- Sales users must only have access to their own records.

Reporting
Pharmacy orders must be displayed in four graphs as follows:

- Annual revenue over $100,000
- Annual revenues under $100,000
- Research facilities
- Hospitals

The graphs must be interactive, and users must be able to drill down on any dimension.

Customizations

- Ensure that notifications are sent to the sales team when a lead is added by using Slack.
- Ensure that leads have a review stage added to the sales process.
- Doctors must be manually added to a custom entity named Doctor if the doctor is not listed.
- Refill dates for customer prescriptions should be automatically determined and a notification should be sent to the customer.
- Fields for the doctor’s name and phone number must be displayed in the customer record.
- The doctor entered on the customer’s record must be validated against doctors that exist in the system.
- The new solution will be sold to other pharmacies for use. The application must not allow changes to be made.

- The solution must be error free so that when it is installed in other environments it does not cause issues.
- A custom mobile app must be created to allow salespeople to add or search by pharmacy name.
- Pharmacy records must be uniquely identified by pharmacy name, address, contact name, and phone number.
- When a pharmacy is added by using the mobile app, the phone number must be validated to be all digits.
-

QUESTION: 1
HOTSPOT
You need to configure the fields with the appropriate type.
Which type should you use? To answer, select the appropriate options in the answer area.
NOTE: Each correct selection is worth one point.
Hot Area:

Exhibit A:

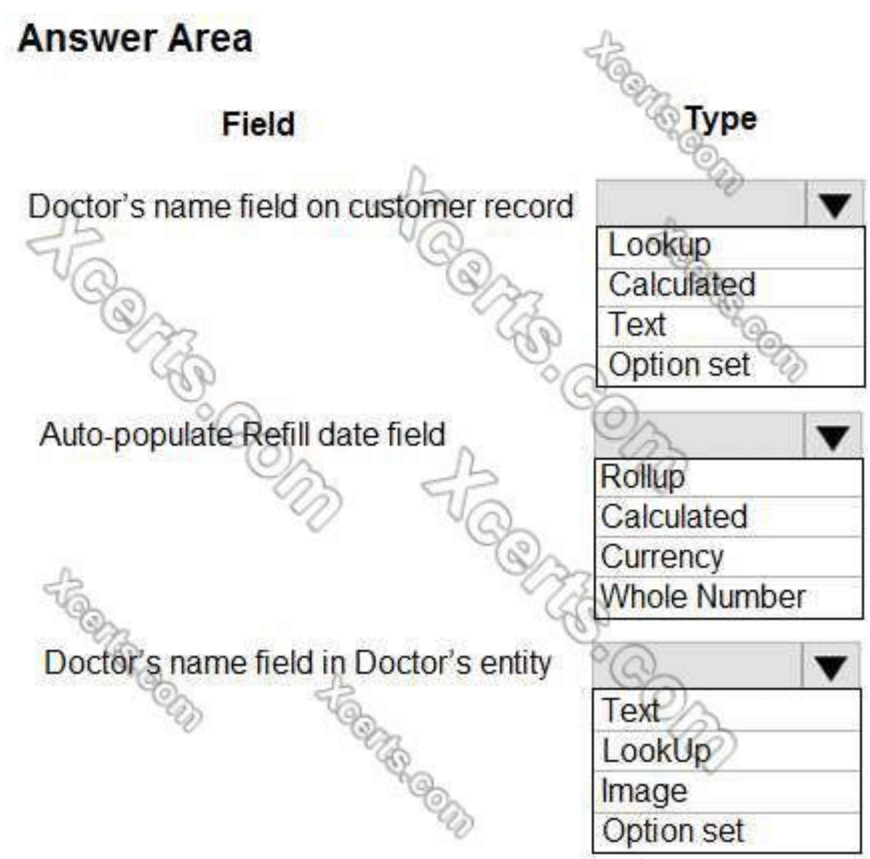
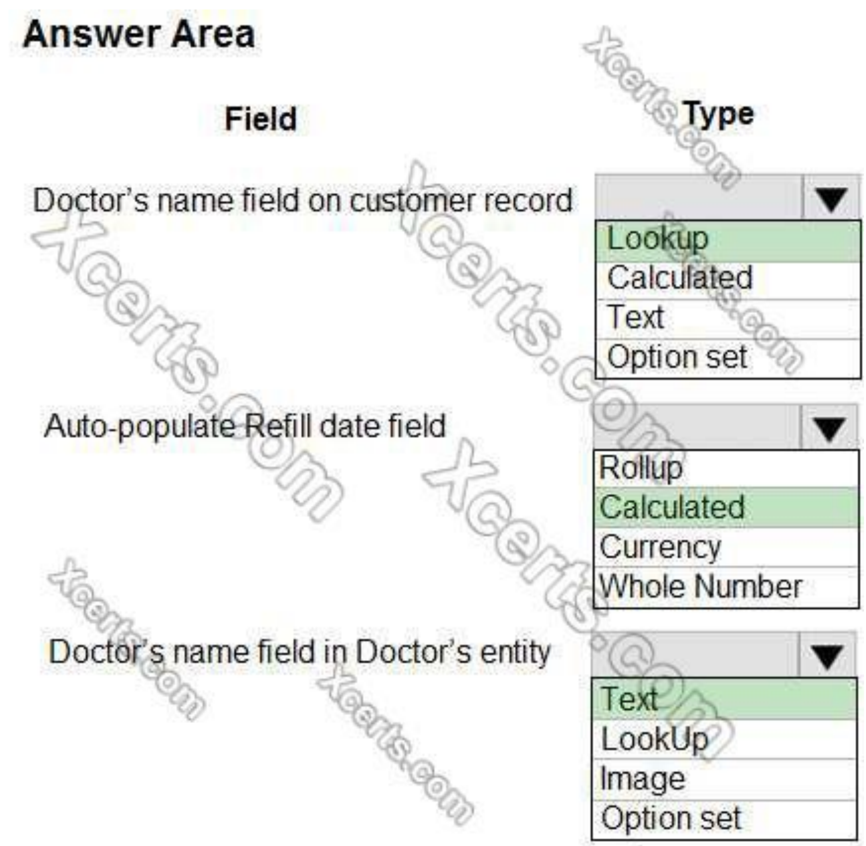


Exhibit B:



A. Please refer to Exhibit B for the answer.

Answer(s): A

Explanation:
Box 1: Lookup
Fields for the doctor's name and phone number must be displayed in the customer record.
Lookup: A field that allows setting a reference to a single record of a specific type of entity.

Box 2: Calculated
Refill dates for customer prescriptions should be automatically determined and a notification should be sent to the customer.
Calculated field: Contains calculations that use fields from the current entity or related parent entities.

Box 3: Text
Field data type: Single Line of Text:
This field can contain up to 4,000 text characters. You can set the maximum length to be less than this. This field has several format options that will change the presentation of the text. These options are Email, Text, Text Area, URL, Ticker Symbol, and Phone.

Reference:
https://docs.microsoft.com/en-us/dynamics365/customerengagement/on-premises/customize/types-of-fields

Testlet 2

Case study
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Background
Bellows Sports is the region's newest, largest, and most complete sports complex. The company features baseball and soccer fields and two full-size hockey rinks. The complex provides coaching, recreational leagues, a pro shop, and state-of-the art customer and player amenities.
The company is organized into the following divisions:

- Baseball
- Hockey
- Soccer

Bellow Sports runs tournaments several times per year. Each tournament runs six weeks.

Current environment

Requirements
Bellow Sports tracks players and events in Microsoft Excel workbooks and uses email to communicate with players, partners, and prospective customers. The company uses a proprietary cloud-based accounting system.

The company relies on referrals from athletes for new business. Bellows uses a third-party marketing company to gather feedback and referrals from athletes. The third-party marketing company uploads a Microsoft Excel file containing lists of potential customers and players to the FTP site that Bellows Sports maintains.

Tournaments

Customer information is stored in the Accounts entity. Each tournament record must list the associated sales representative as the tournament owner. When team members create tournament records they must enter the start date for a tournament. The end date of the tournament must be automatically calculated.

Registration form
You must create a form to allow players to register for tournaments. The registration form must meet the following requirements:

Division	Requirement
Baseball	Capture the age and weight of the player. The height field must not display.
Hockey	Capture the age, height, and weight of the player.
Soccer	Capture the age of the player. The height and weight fields must not display.

- Each division has tournaments that take place in specific locations. Users must be able to select the division for a tournament location.
- Information about upcoming tournaments must be pre-located into the registration form when the registration form loads.
- The form must include a custom button that sends an email confirmation to the player after the player registers.
- The button must not be visible until after the form is saved.

Security
The company identifies the following job roles:

Role	Tasks
Sales representative	These users will enter data into Dynamics 365 Customer Service.
Intern	These users will create Power Apps apps, and connectors, and create Power Automate flows.
Manager	These users will add users, assign security roles, and manage data storage.

You must grant users the minimum permissions required to perform their job tasks.

Data automation
- Customer name must be added to Dynamics 365 Finance automatically after it is entered.
- You must produce a report that details the number of registrations for a day and send the report as a PDF to the management team.
- You must implement mechanisms to handle all code-related errors.
- When a customer record is updated, the system must look up the account number for the customer in the accounting system.
- Referrals must be imported into the system as soon as they are available.

Issues Apps
- The captions for the New and Save buttons do not render properly on the form.
- Interns can create apps but cannot interact with their own data.

Portal

The query for all registered users must return the data categorized by division. Queries must return only the Name and Sport fields. Queries return all fields. The query is as follows:

```
GET [Organization URI]/api/data/v9.1/accounts?
&$orderby=Name, sport
&$filter=sport ne null
```

Solution checker issues

You run solution checker and observe Plug-in or workflow activity errors in the following code sets:

Set	Code	Error message
Code set 1	CS101 var columns = new ColumnSet(); CS102 columns.AllColumns = true; CS103 var query = new QueryExpression("account"); CS104 query.ColumnSet = columns; CS105 var results = service.RetrieveMultiple(query);	il-specify-column
Code Set 2	CS201 WebRequest request = WebRequest.Create ("https://www.bellows.com/api/stuff"); CS202 HttpWebResponse response = new HttpWebResponse(); CS203 CS204 respone = request.GetResponse(); CS205 response.Close();	il-turn-off-keepalive

Code

The following code runs when the registration form loads. You must implement a mechanism to handle errors that occur in the code:

```
UpdateRecord.js (Line numbers are included for reference only.)

UR01
UR02 var data =
UR03      {
UR04        "name" : "Updated Account"
            "creditonhold" : true,
            "description" : "This is an account update",
            "revenue" : 10,000,
            "Division" : 2
          }
UR05 . . .
UR06
```

QUESTION: 1

You need to determine the primary cause of the issue reported by interns when they use the app. What is the primary cause?

A. Interns have the System Customizer security role but need the Environment Maker security role.
B. Interns have the Common Data Service User security role but need the Environment Maker security role.
C. Interns have the Environment Maker security role but need the Common Data Service User security role.
D. Interns have the Environment Maker security role but need the System Customizer security role.
E. Interns have the Environment Maker security role but need the Delegate security role.

Answer(s): D

Explanation:
Scenario: Interns can create apps but cannot interact with their own data.

Environment Maker role: Can create new resources associated with an environment, including apps, connections, custom APIs, gateways, and flows using Microsoft Power Automate. However, this role doesn't have any privileges to access data within an environment.

System Customizer role: full permission to customize the environment. However, users with this role can only view records for environment entities that they create.

Reference:
https://docs.microsoft.com/en-us/power-platform/admin/database-security

QUESTION: 2
DRAG DROP
You need to assign security roles to groups of users.

Which security roles should you use? To answer, drag the appropriate security types to the correct roles. Each security type may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.

NOTE: Each correct selection is worth one point.
Select and Place:

Exhibit A:

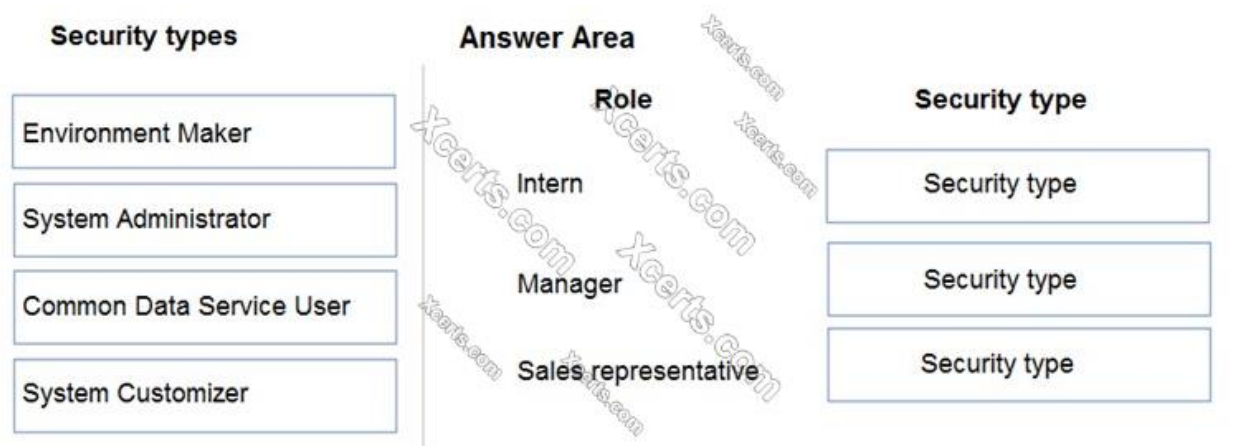
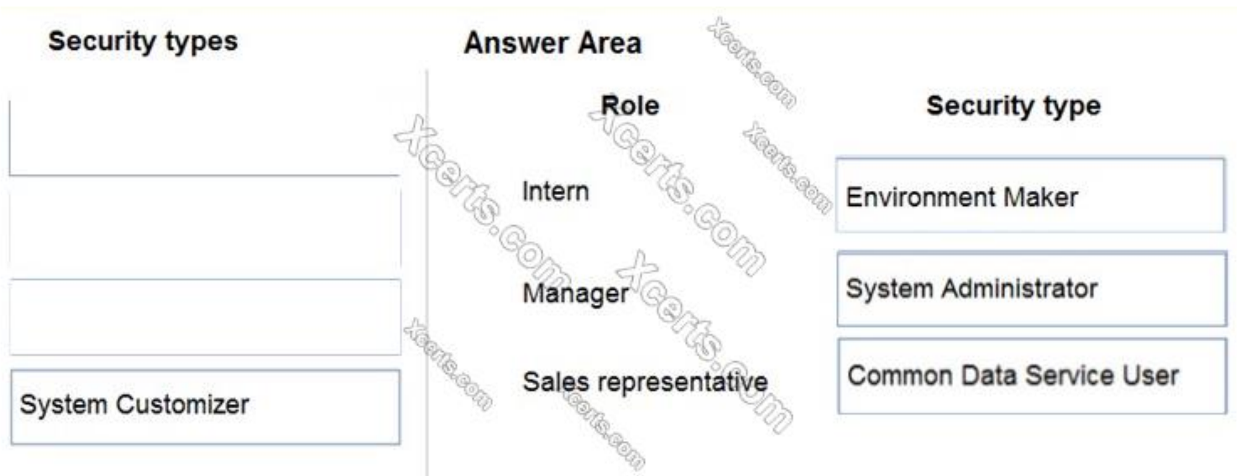


Exhibit B:



A. Please refer to Exhibit B for the answer.

Answer(s): A

Explanation:
Scenario: The company identifies the following job roles:

Role	Tasks
Sales representative	These users will enter data into Dynamics 365 Customer Service.
Intern	These users will create Power Apps apps, and connectors, and create Power Automate flows.
Manager	These users will add users, assign security roles, and manage data storage.

You must grant users the minimum permissions required to perform their job tasks.

Intern: Environment Maker

Environment Maker: Can create new resources associated with an environment, including apps, connections, custom APIs, gateways, and flows using Microsoft Power Automate. However, this role doesn't have any privileges to access data within an environment.

Manager: System Administrator:
System Administrator: Has full permission to customize or administer the environment, including creating, modifying, and assigning security roles. Can view all data in the environment.

Sales representative: Common Data Service User
Basic User/ Common Data Service User: Read (self), Create (self), Write (self), Delete (self)
Can run an app within the environment and perform common tasks for the records that they own.

QUESTION: 3
HOTSPOT
You need to select data types for required fields.

Which data types should you use? To answer, select the appropriate options in the answer area.
NOTE: Each correct selection is worth one point.
Hot Area:

Exhibit A:

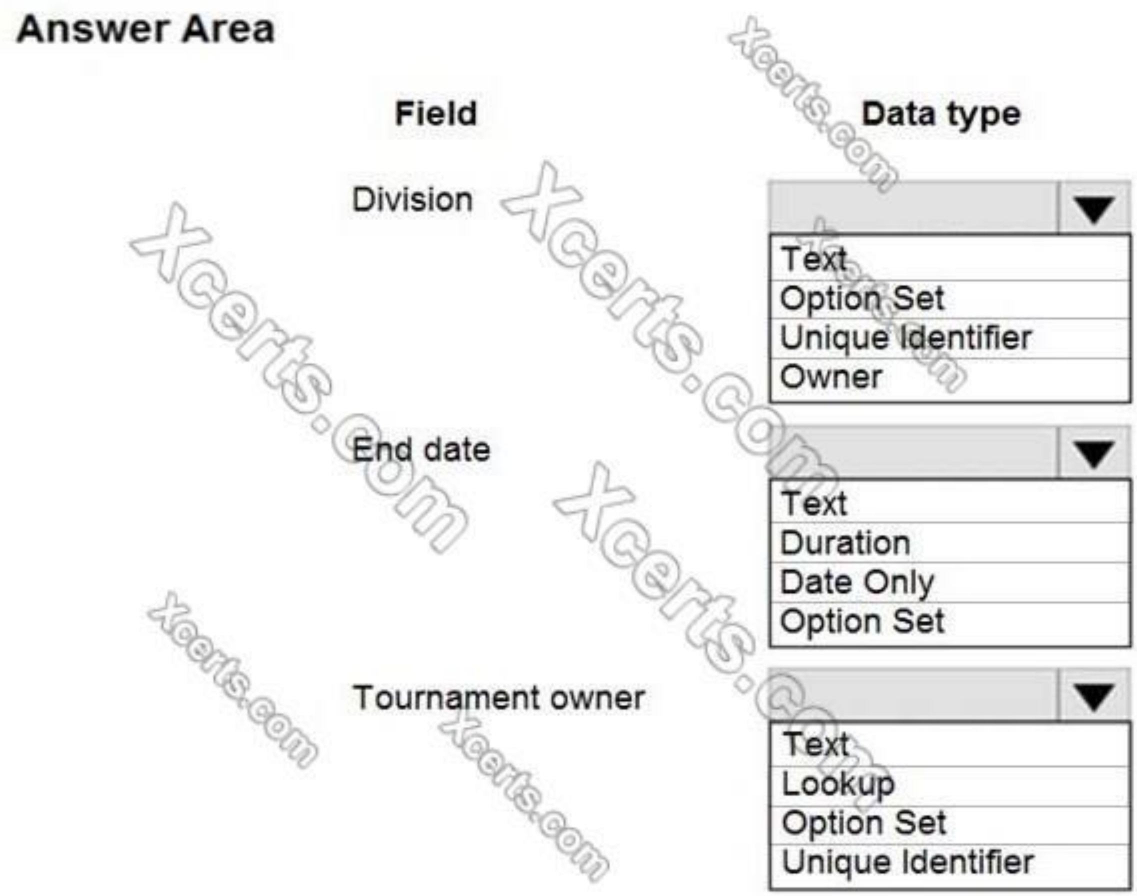
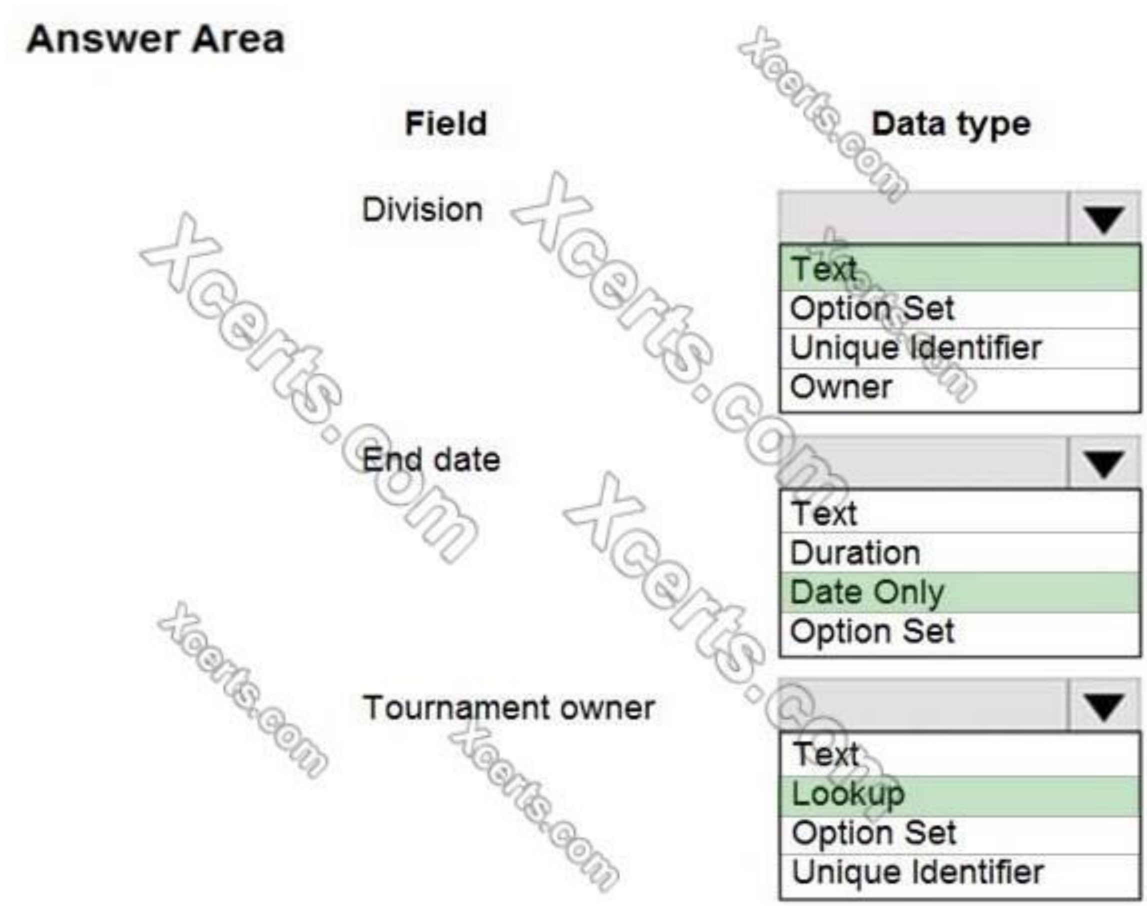

Answer Area
Field
Data type
Division
Text
Option Set
Unique Identifier
Owner
End date
Text
Duration
Date Only
Option Set
Tournament owner
Text
Lookup
Option Set
Unique Identifier

Exhibit B:



A. Please refer to Exhibit B for the answer.

Answer(s): A

Explanation:
Box 1: Text
The company is organized into the following divisions:
- Baseball
- Hockey
- Soccer

Box 2: Date only
When team members create tournament records they must enter the start date for a tournament. The end date of the tournament must be automatically calculated.

Box 3: Lookup
Customer information is stored in the Accounts entity. Each tournament record must list the associated sales representative as the tournament owner.

Note: When you create a new lookup column you are creating a new Many-to-One (N:1) table relationship between the table you're working with and the Target Row Type defined for the lookup. There are additional configuration options for this relationship that are described in

Create and edit relationships between tables. But all custom lookups can only allow for a reference to a single row for a single target row type.

Reference:
https://docs.microsoft.com/en-us/powerapps/maker/data-platform/types-of-fields

Testlet 3

Case study
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Background

Current environment
Adventure Works Cycles wants to replace their paper-based bicycle manufacturing business with an efficient paperless solution. The company has one manufacturing plant in Seattle that produces bicycle parts, assembles bicycles, and distributes finished bicycles to the Pacific Northwest.

Adventure Works Cycles has a retail location that performs bicycle repair and warranty repair work. The company has six maintenance vans that repair bicycles at various events and residences.

Adventure Works Cycles recently deployed Dynamics 365 Finance and Dynamics 365 Manufacturing in a Microsoft-hosted environment for financials and manufacturing. The company plans to leverage the Microsoft Power Platform to migrate all of their distribution and retail workloads to Dynamics 365 Unified Operations.

The customer uses Dynamics 365 Sales. Dynamics 365 Customer Service and Dynamics 365 Field Service.

Retail store information
Adventure Works Cycle has one legal entity, four warehouses, and six field service technicians. Warehouse counting is performed manually by using a counting journal. All warehouse boxes and items are barcoded.

- Adventure Works Cycle has one legal entity, four warehouses, and six field service technicians.
- Warehouse counting is performed manually by using a counting journal. All warehouse boxes and items are barcoded.
- The Adventure Works Cycles retail location performs bicycle inspections and performance tune-ups.
- Technicians use paper forms to document the bicycle inspection performed before a tune-up and any additional work performed on the bicycle.
- Adventure Works Cycles uses a Power Apps app for local bike fairs to attract new customers.
- A canvas app is being developed to capture customer information when customers check in at the retail location. The app has the following features:
    - Customer selects yes or no if they are on the mailing list.
    - Customer selects the amount of times they have visited the store.
    - Customer selects the type of service needed.
    - The search result returns all last name records that match the search term.

Technology

Requirements
- A plug-in for Dynamics 365 Sales automatically calculated the total billed time from all activities on a particular customer account, including sales representative visits, phone calls, email correspondence, and repair time compared with hours spent.
- A shipping API displays shipping rates and tracking information on sales orders. The contract allows for 3,000 calls per month.
- Ecommerce orders are processed in batch daily by using a manual import of sales orders in Dynamics 365 Finance.
- Microsoft Teams is used for all collaboration.
- All testing and problem diagnostics are performed in a copy of the production environment.
- Customer satisfaction surveys are recorded with Microsoft Forms Pro. Survey replies from customers are sent to a generic mailbox.

Automation
- A text message must be automatically sent to a customer to confirm an appointment and to notify when a technician is on route that includes their location.
- Ecommerce sales orders must be integrated into Dynamics 365 Finance and then exported to Azure every night.
- A text alert must be sent to employees scheduled to assist in the repair area of the retail store if the number of repair check-ins exceeds eight.
- Submitted customer surveys must generate an email to the correct department. Approval and follow-up must occur within a week.

Reporting

- The warehouse manager’s dashboard must contain warehouse counting variance information.
- A warehouse manager needs to quickly view warehouse KPIs by using a mobile device.
- Power BI must be used for reporting across the organization.

User experience

- Warehouse counting must be performed by using a mobile app that scans barcodes on boxes.
- All customer repairs must be tracked in the system no matter where they occur.
- Qualified leads must be collected from local bike fairs.

Issues

- Warehouse counting must be performed by using a mobile app that scans barcodes on boxes.
- All customer repairs must be tracked in the system no matter where they occur.
- Qualified leads must be collected from local bike fairs.

Internal

- User1 reports receives an intermittent plug-in error when viewing the total bill customer time.
- User2 reports that Azure consumption for API calls has increased significantly to 100 calls per minute in the last month.
- User2 reports that sales orders have increased.
- User5 receives the error message: ‘Endpoint unavailable’ during a test of the technician dispatch ISV solution.
- The parts department manager who is the approver for the department is currently on sabbatical.

External

- CustomerB reports that the check-in app returned only one search result for their last name, which is not the correct name.
- Nine customers arrive in the repair area of the retail store, but no texts were sent to scheduled employees.
- Customers report that the response time from the information email listed on the Adventure Works Cycles website is greater than five days.
- CustomerC requested additional information from the parts department through the customer survey and has not received a response one week later.
-

QUESTION: 1
You need to reduce response time for the information email on the website. What should you create?

A. a flow that creates a SharePoint item for each email response
B. a flow that creates a notification in Microsoft Teams
C. a Power Apps app that displays the number of email received in a dashboard
D. a logic app that moves all emails received to Azure Blob storage

Answer(s): B

Explanation:
Scenario:
Customers report that the response time from the information email listed on the Adventure Works Cycles website is greater than five days.
Microsoft Teams is used for all collaboration.
Microsoft teams support email notifications.

Reference:
https://support.microsoft.com/en-us/office/manage-notifications-in-teams-1cc31834-5fe5-412b-8edb- 43fecc78413d

Exam Topic: Configure Common Data Service questions

QUESTION: 1
HOTSPOT
You are synchronizing company data from a SQL Server-based .NET application into a Common Data Service (CDS) environment.

The data is entered in both the SQL Server and CDS systems. You have a program that includes the following code:

```
var account = new Entity("account", "accountnumber", "C0-555");
account["name"] = "Contoso";
account["creditlimit"] = new Money(100000);
var request = new UpsertRequest() { Target = account };
var response = (UpsertResponse)_serviceProxy.Execute(request);
```

For each of the following statements, select Yes if the statement is true. Otherwise, select No.

NOTE: Each correct selection is worth one point.
Hot Area:

Exhibit A:

Answer Area

	Yes	No
Creating a new field to store the record identifier from the database resolves the error: `The specified key attributes are not a defined key for the account entity.`	○	○
Creating an alternate key that uses the accountnumber field resolves the error: `The specified key attributes are not a defined key for the account entity.`	○	○
If an account exists with only the account name entered as Contoso and all other fields empty, a new account record is created.	○	○
If an account exists that uses the account number CO-555, a new account record is created.	○	○

Exhibit B:

Answer Area

	Yes	No
Creating a new field to store the record identifier from the database resolves the error: `The specified key attributes are not a defined key for the account entity.`	○	○
Creating an alternate key that uses the accountnumber field resolves the error: `The specified key attributes are not a defined key for the account entity.`	○	○
If an account exists with only the account name entered as Contoso and all other fields empty, a new account record is created.	○	○
If an account exists that uses the account number CO-555, a new account record is created.	○	○

A. Please refer to Exhibit B for the answer.

Answer(s): A

Explanation:
Box 1: No.
An alternate key is needed, not a new field for the record identifier.

Box 2: Yes
The specified key attributes are not a defined key for the account entity.
Name: EntityKeyNotDefined
Message: The specified key attributes are not a defined key for the {0} entity

Box 3: Yes
One way to create an entity is by using the UpsertRequest class. An upsert will create a new entity when there is no existing record that has the unique identifiers included in the entity passed with the request.

Box 4: No

Reference:
https://docs.microsoft.com/en-us/powerapps/developer/common-data-service/org-service/web-service-error-codes
https://docs.microsoft.com/en-us/powerapps/developer/common-data-service/org-service/entity-operations-update-delete#use-upsert

QUESTION: 2
DRAG DROP
A company is creating a new system based on the Common Data Service (CDS). You need to select the CDS features that meet the company's requirements.

Which features should you select? To answer, drag the appropriate features to the correct requirements. Each feature may be used once, more than once, or not at all. You may needs to drag the split bar between panes or scroll to view content.

NOTE: Each correct selection is worth one point.
Select and Place:

Exhibit A:

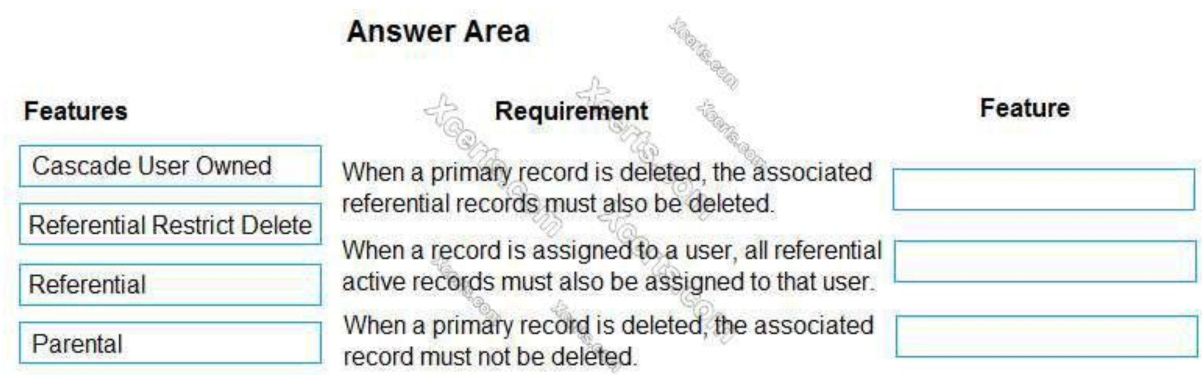
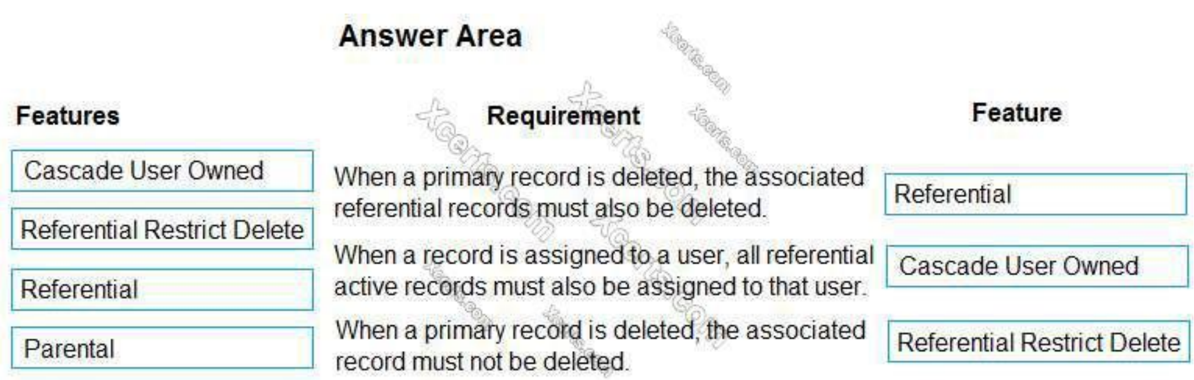


Exhibit B:



A. Please refer to Exhibit B for the answer.

Answer(s): A

Explanation:
Box 1: Referential
Active/ Cascade Active one-to-many entity relationship: Perform the action on all active referencing entity records associated with the referenced entity record.

Box 2: Cascade User Owner
Cascade User Owned: Perform the action on all referencing entity records owned by the same user as the referenced entity record.

Box 3: Referential Restrict Delete
Restrict: Prevent the Referenced entity record from being deleted when referencing entities exist.

Reference:
https://docs.microsoft.com/en-us/powerapps/developer/common-data-service/configure-entity-relationship-cascading-behavior

QUESTION: 3
DRAG DROP
A company implements Dynamics 365 Sales.

Only sales managers must be able to perform the approval to move high value sales on in the opportunity qualification process. A new field must be created to capture the approval.
You need to create and secure the new field.

Which three actions should you perform in sequence? To answer, move the appropriate actions from the list of actions to the answer area and arrange them in the correct order.
Select and Place:

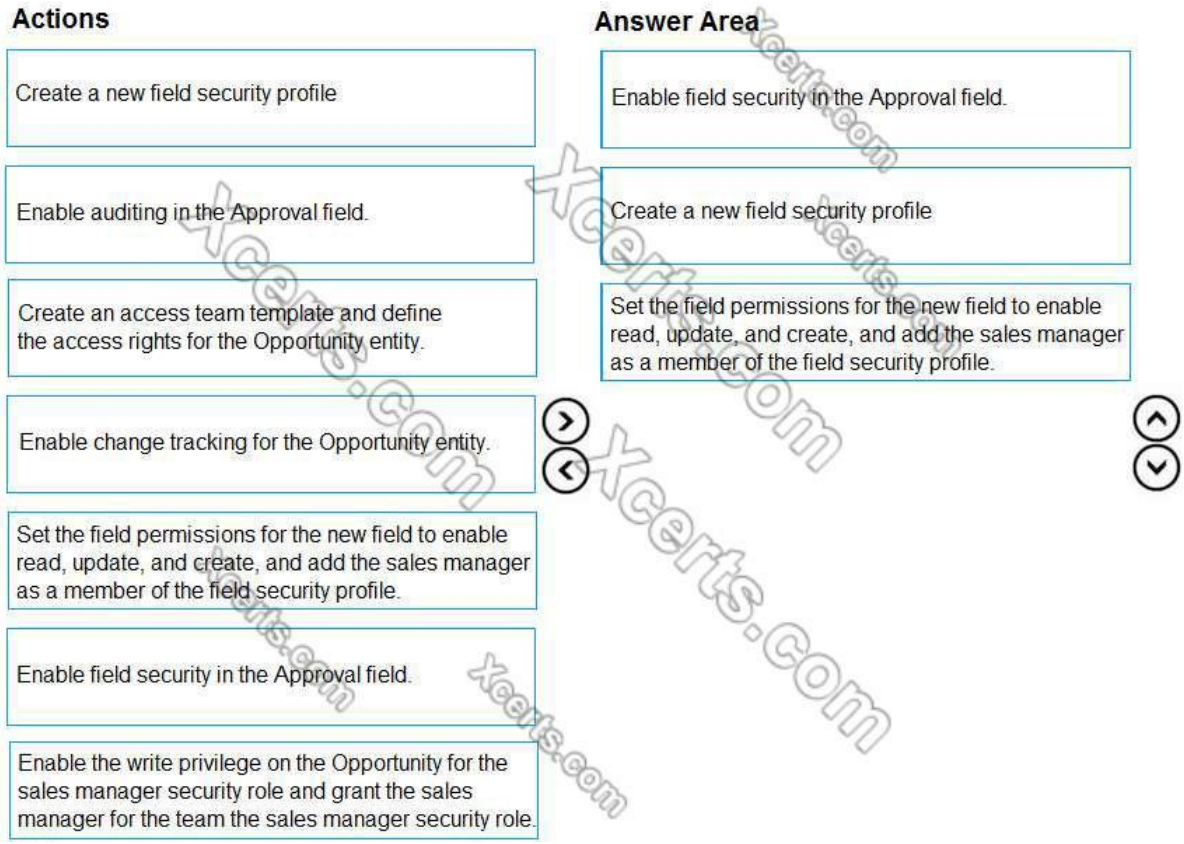
Exhibit A:

Actions

- Create a new field security profile
- Enable auditing in the Approval field.
- Create an access team template and define the access rights for the Opportunity entity.
- Enable change tracking for the Opportunity entity.
- Set the field permissions for the new field to enable read, update, and create, and add the sales manager as a member of the field security profile.
- Enable field security in the Approval field.
- Enable the write privilege on the Opportunity for the sales manager security role and grant the sales manager for the team the sales manager security role.

Answer Area

Exhibit B:



A. Please refer to Exhibit B for the answer.

Answer(s): A

Explanation:
Step 1: Enable field security in the Approval field.
1. Enable field security on one or more fields for a given entity.
2. Associate one more existing security profiles, or create one or more new security profiles to grant the appropriate access to specific users or teams (step 2 and step 3 below).

Step 2: Create a new field security profile.
Create a new field security profile for the sales manager. Step 3: Set the field permissions…security profile
Step 2 and step 3, example:
Configure the security profiles.
1. Create the field security profile for sales managers.
2. Go to Settings > Security.
3. Click Field Security Profiles.
4. Click New, enter a name, such as Sales Manager access contact mobile phone, and click Save.
5. Click Users, click Add, select the users that you want to grant read access to the mobile phone number on the contact form, and then click Add.
6. Click Field Permissions, click mobilephone, click Edit, select Yes next to Allow Read, and then click OK.

Reference:
https://docs.microsoft.com/en-us/dynamics365/customerengagement/on-premises/admin/field-level-security

QUESTION: 4
HOTSPOT
A company delivers packages to businesses and consumers. A custom entity named Package captures the package details.

You need to add the following sets of fields to the entity and leverage the built-in operations of the platform:

- A set of fields to represent the package length, width, depth, and weight. The maximum value for any dimension is 100 centimeters.
- A set of fields for time-sensitive attributes to calculate the efficiency of a delivery based on when the delivery is entered in the system and the existing custom fields: Pickup time and Delivery time.

Which constructs should you use? To answer, select the appropriate options in the answer area.
NOTE: Each correct selection is worth one point.
Hot Area:

Exhibit A:

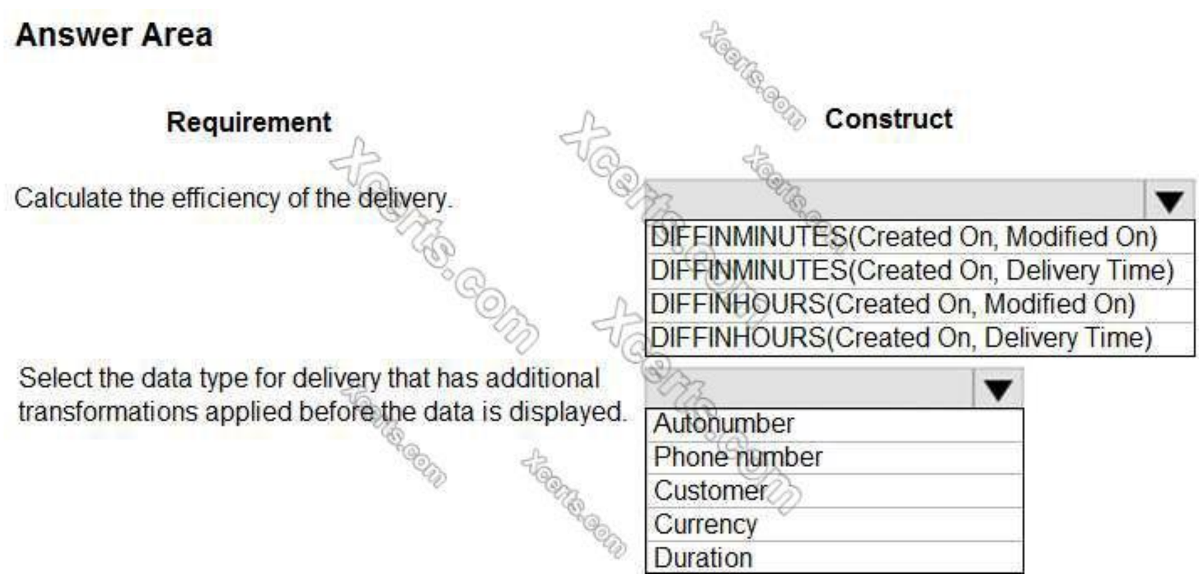
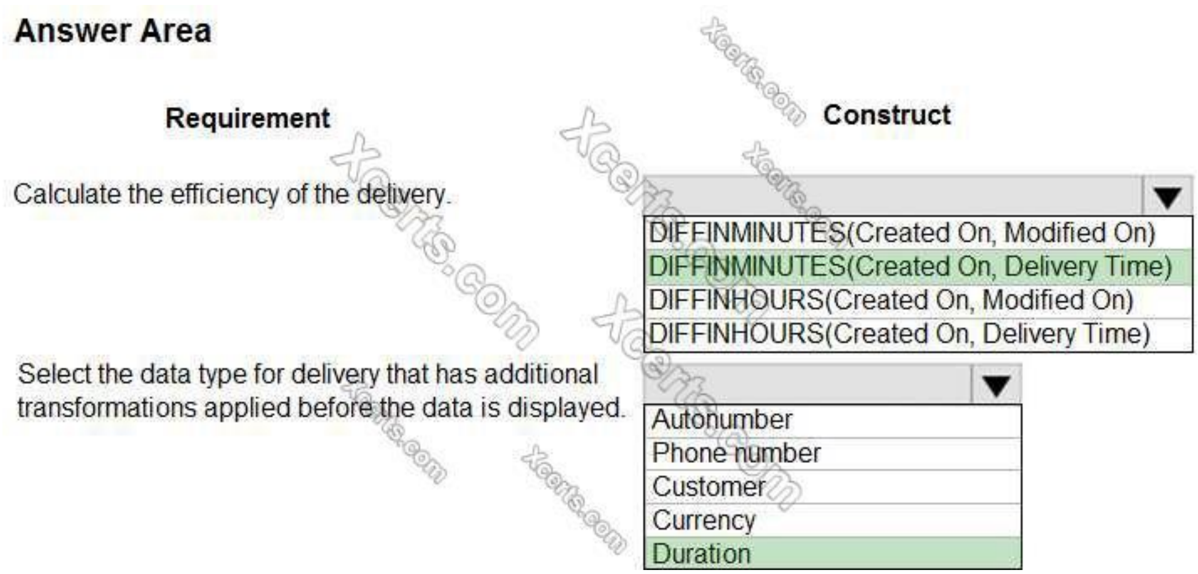


Exhibit B:



A. Please refer to Exhibit B for the answer.

Answer(s): A

Explanation:
Box 1: DIFFINMINUTES(Created on, Delivery Time)
DIFFINMINUTES (date and time, date and time) returns the difference in minutes between two Date and Time columns.
Box 2: Duration

Reference:
https://docs.microsoft.com/en-us/powerapps/maker/common-data-service/define-calculated-fields

QUESTION: 5
A financial services company uses the Common Data Service (CDS) to develop solutions. The company uses development and production instances.

You need to move solutions from the development instance to the production instance.
What are two possible ways to achieve this goal? Each correct answer presents a complete solution.
NOTE: Each correct selection is worth one point.

A. In the development instance, make changes to the solutions that are deployed in the production instance, export the solutions as managed solutions, and import the managed solutions into the production instance.
B. In the development instance, highlight the solution you want to make changes to, select Clone a Patch, make changes, export the solution, and import the solution into the production instance.
C. Export all managed solutions from the development instance and import the solutions into the production instance.

D. In the production instance, import solutions with the same version number or higher when updating solutions.

Answer(s): A, B

Explanation:
A: When you import a managed solution, all component changes will be brought into the environment in a published state.

B: You can apply patches to either managed or unmanaged solutions and include only changes to entities and related entity assets. Patches do not contain any non-customized system components or relationships that it dependents upon because these components already exist in the deployed-to organization. At some point in your development cycle, you can roll up all the patches into a new solution version to replace the original solution that the patches were created from.

Reference:
https://docs.microsoft.com/en-us/powerapps/maker/common-data-service/import-update-export-solutions https://docs.microsoft.com/en-us/power-platform/alm/create-patches-simplify-solution-updates

QUESTION: 6
DRAG DROP
A company uses Common Data Service (CDS) and manages their engineers using a model-driven app.
You create a new reusable custom component named Component1 by using the Power Apps component framework (PCF).

You need to package Component1 for deployment into the model-driven app.

Which three commands should you run in sequence? To answer, move the appropriate actions from the list of actions to the answer area and arrange them in the correct order.

Select and Place:

Exhibit A:

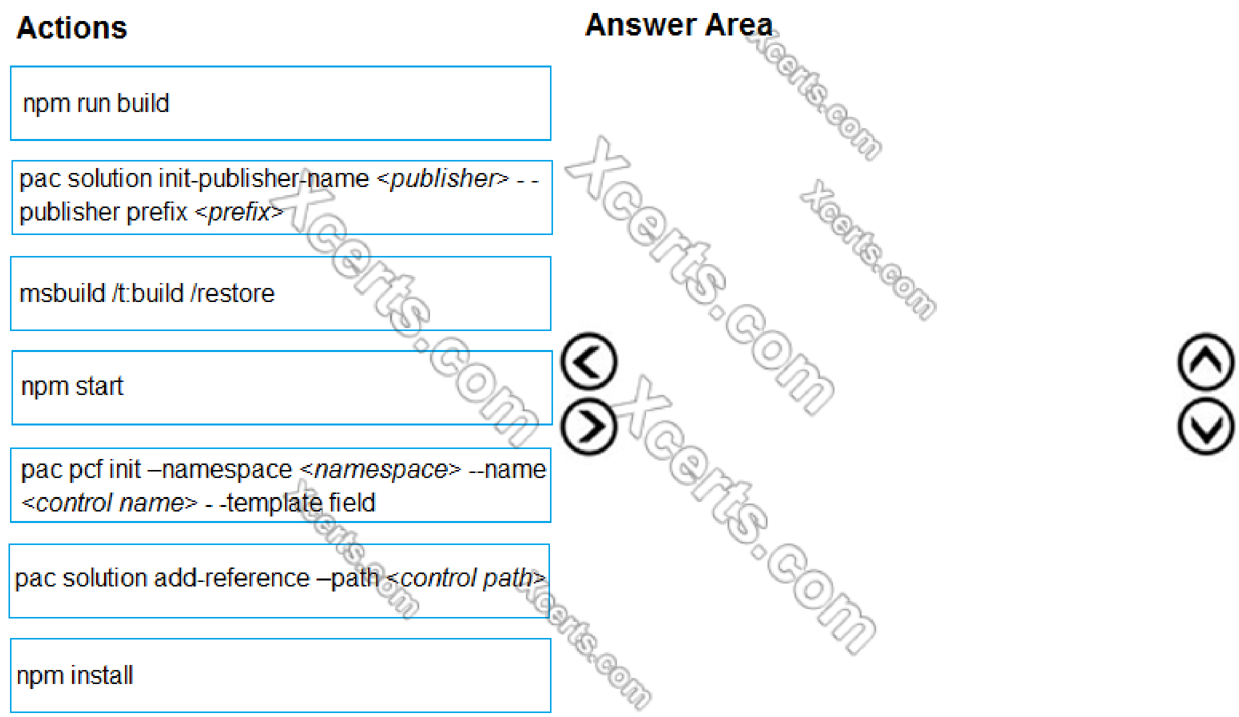
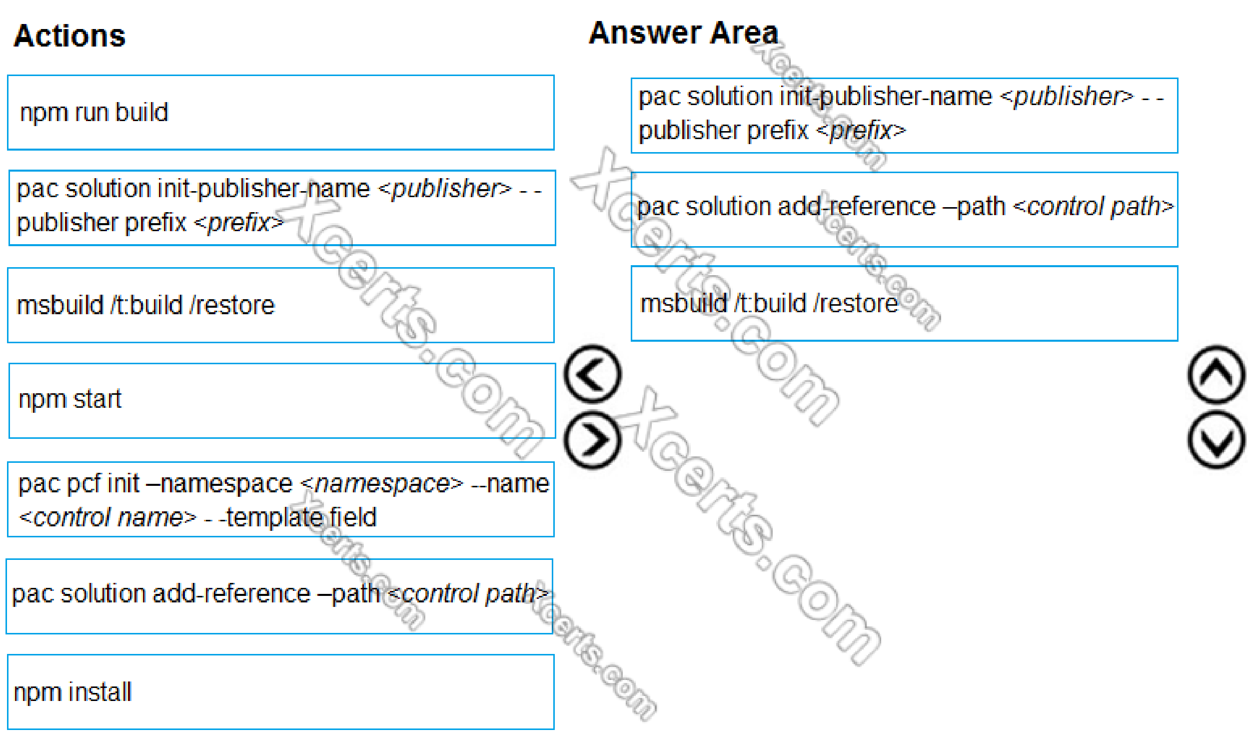


Exhibit B:



A. Please refer to Exhibit B for the answer.

Answer(s): A

Explanation:
Step 1: pac solution init --publisher-name <publisher> --publisher-prefix <prefix>
Create a new solutions project using the following command. The solution project is used for bundling the code component into a solution zip file that is used for importing into Dataverse.

pac solution init --publisher-name developer --publisher-prefix dev

Step 2: pac solution add-reference --path <control-path>
Once the new solution project is created, refer the Solutions folder to the location where the created sample component is located. You can add the reference using the command shown below. This reference informs the solution project about which code components should be added during the build. You can add references to multiple components in a single solution project.

pac solution add-reference --path c:\downloads\mysamplecomponent

Step 3: msbuild /t:build /restore
To generate a zip file from the solution project, go into your solution project directory and build the project using the following command. This command uses MSBuild to build the solution project by pulling down the NuGet dependencies as part of the restore. Use the /restore only for the first time when the solution project is built. For every build after that, you can run the command msbuild.

msbuild /t:build /restore

Reference:
https://docs.microsoft.com/en-us/powerapps/developer/component-framework/import-custom-controls

QUESTION: 7
A travel company has a Common Data Service (CDS) environment.
The company requires the following:

- Custom entities that track which regions clients have traveled.
- The dates their clients traveled to these regions.

You need to create the entities and relationships to meet the requirements.
Which three actions should you perform? Each correct answer presents part of the solution.
NOTE: Each correct selection is worth one point.

A. Create a N:N relationship from Contact to the Region entity.
B. Create a 1:N relationship from the ContactRegion intersect entity and Region.
C. Create an intersect entity named ContactRegion and create 1:N relationships to Contact and Region.
D. On the main form for ContactRegion, add lookup fields for Contact and Region, and a date field for the visit date.
E. Create a 1:N relationship from Contact to the Region entity.
F. Create the Region entity.
G. On the main form for ContactRegion, add a sub-grid to view country information.

H. Create an intersect entity named ContactRegion and create N:1 relationships to Contact and Region.

Answer(s): C, D, F

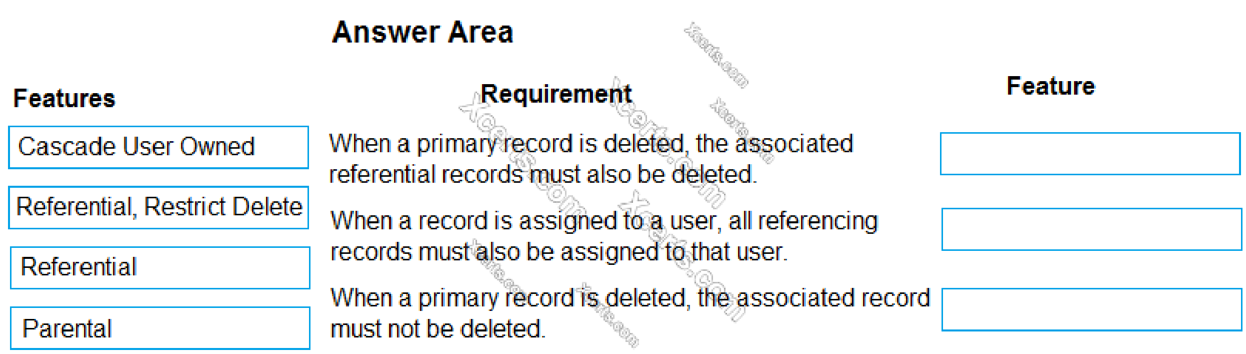
Explanation:
Need a Region entity, a intersect entity ContactRegion between Contact and Region, and a way to input region visits.

QUESTION: 8
DRAG DROP
A company is creating a new system based on the Common Data Service.
You need to select the Common Data Service features that meet the company's requirements.

Which features should you select? To answer, drag the appropriate features to the correct requirements. Each feature may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.

NOTE: Each correct selection is worth one point.
Select and Place:

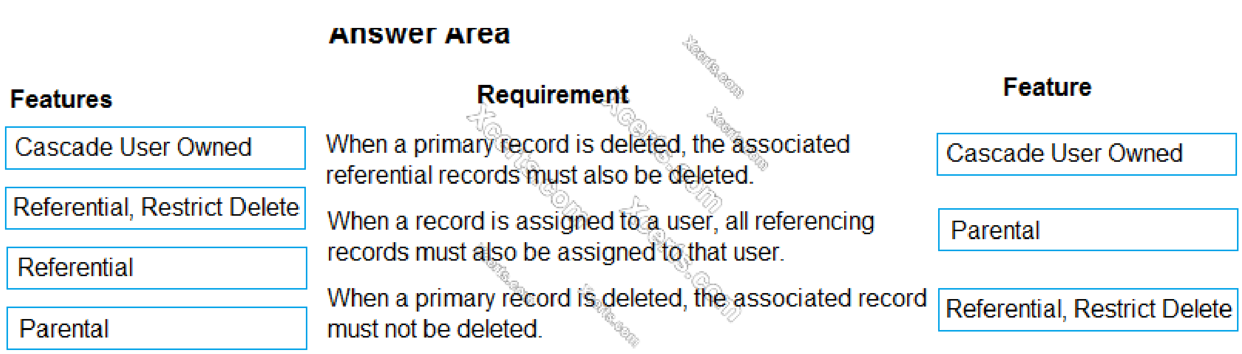
Exhibit A:



Answer Area

Features	Requirement	Feature
Cascade User Owned	When a primary record is deleted, the associated referential records must also be deleted.	
Referential, Restrict Delete	When a record is assigned to a user, all referencing records must also be assigned to that user.	
Referential	When a primary record is deleted, the associated record must not be deleted.	
Parental		

Exhibit B:



Answer Area

Features	Requirement	Feature
Cascade User Owned	When a primary record is deleted, the associated referential records must also be deleted.	Cascade User Owned
Referential, Restrict Delete	When a record is assigned to a user, all referencing records must also be assigned to that user.	Parental
Referential	When a primary record is deleted, the associated record must not be deleted.	Referential, Restrict Delete
Parental		

A. Please refer to Exhibit B for the answer.

Answer(s): A

Explanation:
Box 1: Cascade User Owned
Cascade User Owned: Perform the action on all related table rows owned by the same user as the primary table row.

Box 2: Parental
A parental table relationship is any 1:N table relationship where one of the cascading options in the Parental column of the following table is true.
Box 3: Referential, Restrict Delete

Reference:
https://docs.microsoft.com/en-us/powerapps/maker/data-platform/create-edit-entity-relationships

QUESTION: 9
A company uses Common Data Service rollup fields to calculate insurance exposure and risk profiles for customers.

Users report that the system does not update values for the rollup fields when new insurance policies are written.

You need to recalculate the value of the rollup fields immediately after a policy is created. What should you do?

A. Create a plug-in that uses the update method for the rollup field. Configure a step on the Create event for the policy entity for this plug-in.
B. Update the Mass Calculate Rollup Field job to trigger when a new policy record is created.
C. Change the frequency of the Calculate Rollup Field recurring job from every hour to every five minutes.
D. Create new fields on the customer entity for insurance exposure and risk. Write a plug-in that is triggered whenever a new policy record is created.

Answer(s): C

Explanation:
As a system administrator, you can modify the rollup job recurrence pattern, postpone, pause, or resume the rollup job.

To pause, postpone, resume, or modify the recurrence pattern, you must view the system jobs. More information View Rollup jobs

On the nav bar, choose Actions and select the action you want.
For the Calculate Rollup Field job, the available selections are: Modify Recurrence, Resume, Postpone, and Pause.

For the Mass Calculate Rollup Field job, the available selections are: Resume, Postpone, and Pause.

Note: Calculate Rollup Field is a recurring job that does incremental calculations of all rollup columns in the existing rows for a specified table. There is only one Calculate Rollup Field job per table. The incremental calculations mean that the Calculate Rollup Field job processes the rows that were created, updated, or deleted after the last Mass Calculate Rollup Field job finished execution. The default maximum recurrence setting is one hour. The job is automatically created when the first rollup column on a table is created and deleted when the last rollup column is deleted.

Incorrect Answers:
B: Mass Calculate Rollup Field is a recurring job, created per a rollup column. It runs once, after you created or updated a rollup column. The job recalculates the specified rollup column value in all existing rows that contain this column. By default, the job will run 12 hours after you created or updated a column. After the job completes, it is automatically scheduled to run in the distant future, approximately, in 10 years. If the column is modified, the job resets to run again in 12 hours after the update. The 12-hour delay is needed to assure that the Mass Calculate Rollup Field runs during the non-operational hours of the environment.

Reference:
https://docs.microsoft.com/en-us/powerapps/maker/data-platform/define-rollup-fields

QUESTION: 10
Note: This question is part of a series of questions that present the same scenario. Each question in the series contains a unique solution that might meet the stated goals. Some question sets might have more than once correct solution, while others might not have a correct solution.

After you answer a question in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.

A university implements Dynamics 365 Sales. Several departments use opportunity records to bid for funding for projects within their own departments. You configure the system to ensure that each department can only work on their own records.

Employees in multiple departments often need to work together on an opportunity. Employees report that they are not able to see opportunities from other departments.

You need to ensure that employees from more than one department can work on the same opportunities when necessary.

Solution: Use position hierarchy security and define the two departments as positions. Does the solution meet the goal?

A. Yes
B. No

Answer(s): A

Explanation:
Two security models can be used for hierarchies, the Manager hierarchy and the Position hierarchy. The Position hierarchy allows data access across business units. If you are a financial organization, you may prefer the Manager hierarchy model, to prevent managers' accessing data outside of their business units. However, if you are a part of a customer service

organization and want the managers to access service cases handled in different business units, the Position hierarchy may work better for you.

Note: The hierarchy security model is an extension to the existing security models that use business units, security roles, sharing, and teams. It can be used in conjunction with all other existing security models. The hierarchy security offers a more granular access to records for an organization and helps to bring the maintenance costs down.

Reference:
https://docs.microsoft.com/en-us/power-platform/admin/hierarchy-security

QUESTION: 11
Note: This question is part of a series of questions that present the same scenario. Each question in the series contains a unique solution that might meet the stated goals. Some question sets might have more than once correct solution, while others might not have a correct solution.

After you answer a question in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.

A university implements Dynamics 365 Sales. Several departments use opportunity records to bid for funding for projects within their own departments. You configure the system to ensure that each department can only work on their own records.

Employees in multiple departments often need to work together on an opportunity. Employees report that they are not able to see opportunities from other departments.

You need to ensure that employees from more than one department can work on the same opportunities when necessary.

Solution: Create a security role that has organization-level access to opportunities. Give this security role to all members of the two departments who need access.

Does the solution meet the goal?

A. Yes
B. No

Answer(s): B

Explanation:
Instead use position hierarchy security and define the two departments as positions.

Reference:
https://docs.microsoft.com/en-us/power-platform/admin/hierarchy-security

QUESTION: 12
Note: This question is part of a series of questions that present the same scenario. Each question in the series contains a unique solution that might meet the stated goals. Some

question sets might have more than once correct solution, while others might not have a correct solution.

After you answer a question in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.

A university implements Dynamics 365 Sales. Several departments use opportunity records to bid for funding for projects within their own departments. You configure the system to ensure that each department can only work on their own records.

Employees in multiple departments often need to work together on an opportunity. Employees report that they are not able to see opportunities from other departments.

You need to ensure that employees from more than one department can work on the same opportunities when necessary.

Solution: Use access team templates and give access to members in the two departments.
Does the solution meet the goal?

A. Yes
B. No

Answer(s): B

Explanation:
Instead use position hierarchy security and define the two departments as positions.

Reference:
https://docs.microsoft.com/en-us/power-platform/admin/hierarchy-security

QUESTION: 13
DRAG DROP
An international organization has a series of client-server applications that manage red light cameras and traffic violations across a wide geographic region. The daily volume of traffic violations is very high and growing.

You plan to use Microsoft Power Platform apps to manage the following types of data:

- Existing vehicle licensing data must be imported into Common Data Service and easily queried.
- Red light camera images must be stored in a repository for later analysis.
- Information about traffic violations must be stored and related to vehicle details.

You need to select data storage mechanisms for the new apps.

Which data storage mechanisms should you use? To answer, drag the appropriate data storage mechanisms to the correct data types. Each storage mechanism may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.

NOTE: Each correct selection is worth one point.

Select and Place:

Exhibit A:

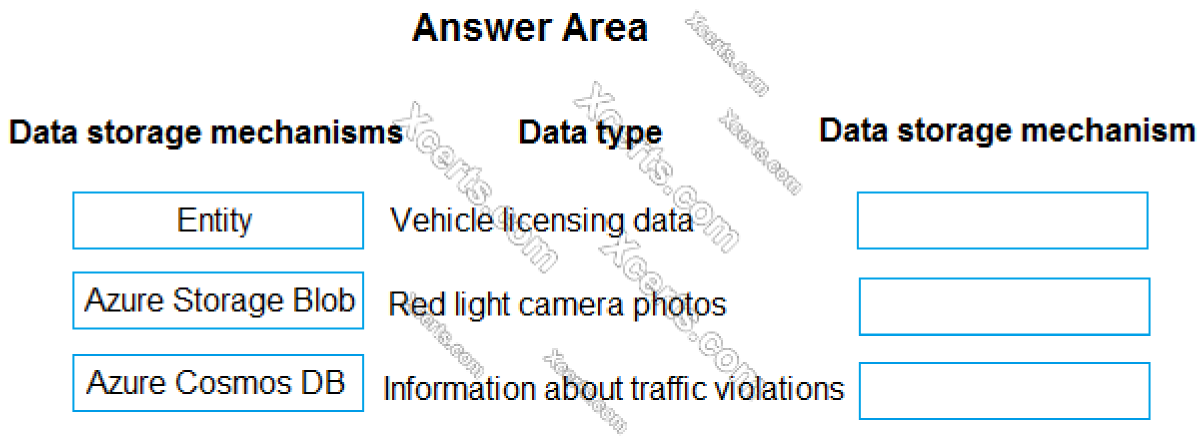
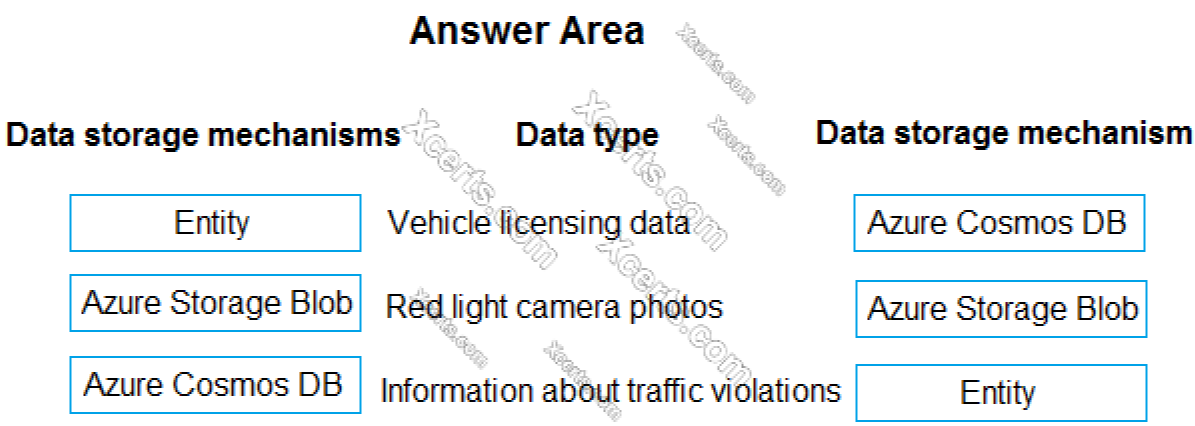


Exhibit B:



A. Please refer to Exhibit B for the answer.

Answer(s): A

QUESTION: 14
A financial institution that has a Dynamics 365 Sales environment requires that the account balance field from the account entity be visible to specific users only.

You need to set up the field security for the account balance field.
Which three actions should you perform? Each correct answer presents part of the solution.
NOTE: Each correct selection is worth one point.

A. Set the field to Read-Only and then publish the entity
B. Set the field permission Allow Read to Yes and add the users to the members section
C. Create a security role and add the specific users to the role
D. Enable field security and then publish the entity

E. Create a field security profile

Answer(s): B, D, E

Explanation:
To implement field-level security, a system administrator performs the following tasks.
1. Enable field security on one or more fields for a given entity.
2. Associate one more existing security profiles, or create one or more new security profiles to grant the appropriate access to specific users or teams.

A security profile determines the following:
- Permissions to the secure fields
- Users and Teams

A security profile can be configured to grant user or team members the following permissions at the field level:
- Read. Read-only access to the field's data.
- Create. Users or teams in this profile can add data to this field when creating a record.
- Update. Users or teams in this profile can update the field's data after it has been created.

Reference:
https://docs.microsoft.com/en-us/power-platform/admin/field-level-security

QUESTION: 15
HOTSPOT
An organization uses Common Data Service.

The organization’s IT helpdesk requires a single-page web application to monitor and manage Data Export Service. The app must access Data Export Service securely. The app must also permit helpdesk users to perform a limited set of functions.

You need to create a single-page app.

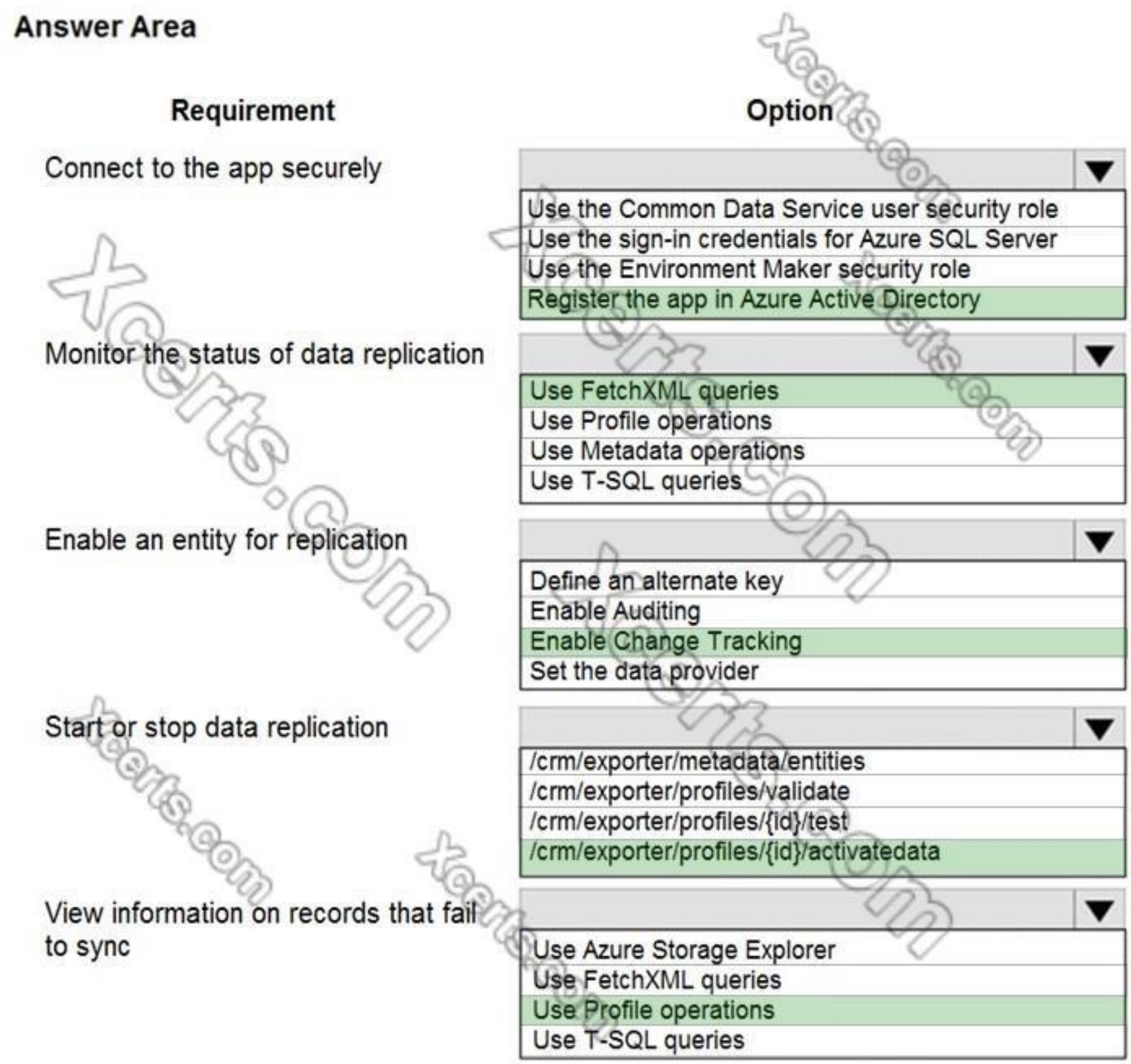
Which options should you use? To answer, select the appropriate options in the answer area.
NOTE: Each correct selection is worth one point.
Hot Area:

Exhibit A:

Answer Area

Requirement	Option
Connect to the app securely	Use the Common Data Service user security role Use the sign-in credentials for Azure SQL Server Use the Environment Maker security role Register the app in Azure Active Directory
Monitor the status of data replication	Use FetchXML queries Use Profile operations Use Metadata operations Use T-SQL queries
Enable an entity for replication	Define an alternate key Enable Auditing Enable Change Tracking Set the data provider
Start or stop data replication	/crm/exporter/metadata/entities /crm/exporter/profiles/validate /crm/exporter/profiles/{id}/test /crm/exporter/profiles/{id}/activatedata
View information on records that fail to sync	Use Azure Storage Explorer Use FetchXML queries Use Profile operations Use T-SQL queries

Exhibit B:



A. Please refer to Exhibit B for the answer.

Answer(s): A

Explanation:
Box 1: Register the app in Azure Active Directory
Box 2: Use FetchXML queries
The failure entries can be retrieved through the Get the failure details for a given Profile request. The response returns a URI to an Azure blob that contains the failure information. Each line has the following comma- separated fields (newlines added for clarity):

Entity: <entity-name>,
RecordId: <”N/A” | guid>,
NotificationTime: <datetime>,
ChangeType: <sync-type>,

FailureReason: <description>

Note: FetchXML is a proprietary XML based query language of Microsoft Dataverse used to query data using either the Web API or the Organization service. It's based on a schema that describes the capabilities of the language. The FetchXML language supports similar query capabilities as query expressions.

Incorrect Answers:
The Data Export Service exposes a REST-based API that is divided into two groups: a set of Metadata operations for exploring Dataverse organizational structure, relationships, and connection information; and a set of Profiles operations for configuring and managing each data replication.

Box 3: Enable Change Tracking
The entities that will be added to the Export Profile must be enabled with change tracking.

Box 4: /crm/exporter/{id}/activatedata
profiles/{id}/activatedata
Activate profile for data replication only.

Note: profiles/{id}/activate
Activate a profile, which starts replication of both the associated table definitions and data.

Box 5: Use Profile operations
These failure entries can be retrieved through the Get the failure details for a given Profile request.

Reference:
https://docs.microsoft.com/en-us/powerapps/developer/data-platform/data-export-service
https://docs.microsoft.com/en-us/power-platform/admin/replicate-data-microsoft-azure-sql-database
https://docs.microsoft.com/en-us/powerapps/developer/data-platform/use-fetchxml-construct-query

QUESTION: 16
HOTSPOT
A company has a Common Data Service (CDS) environment.
The following conditions must apply when accounts are reassigned:

- Ownership for completed tasks that are associated with the account must not change.
- Outstanding tasks must be reassigned to the new owner of the account.

You need to configure the relationship to meet the requirements.

Which settings should you use? To answer, select the appropriate options in the answer area.
NOTE: Each correct selection is worth one point.
Hot Area:

Exhibit A:

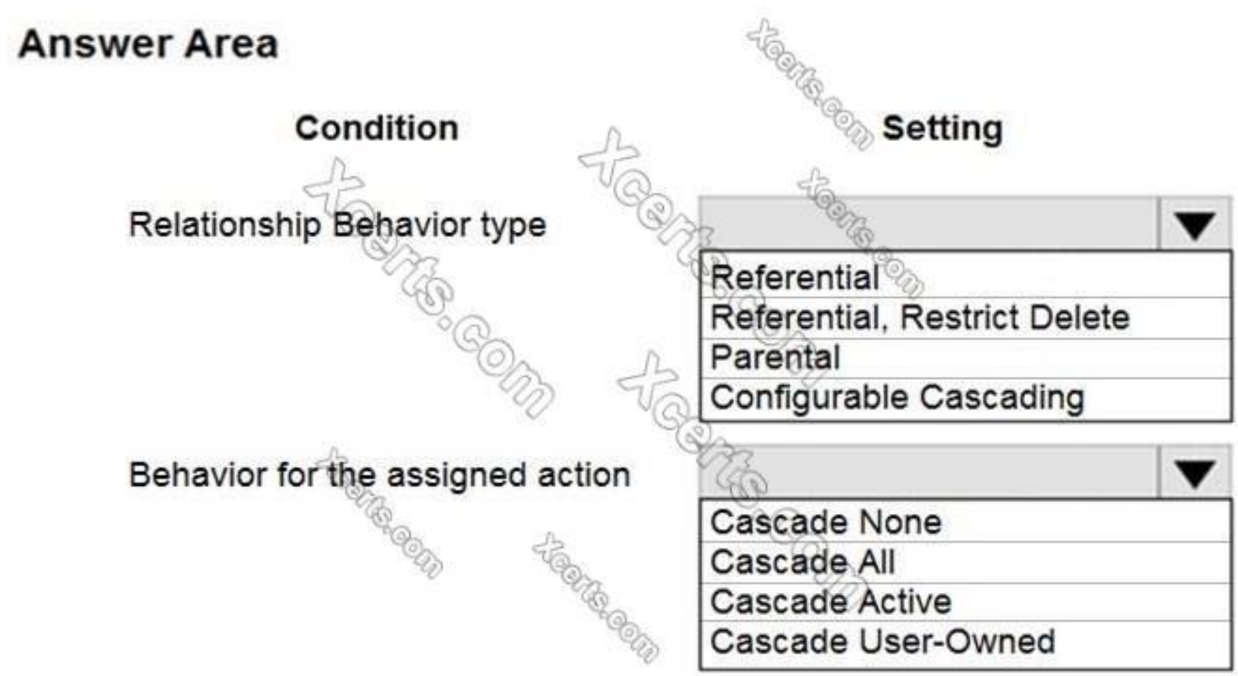
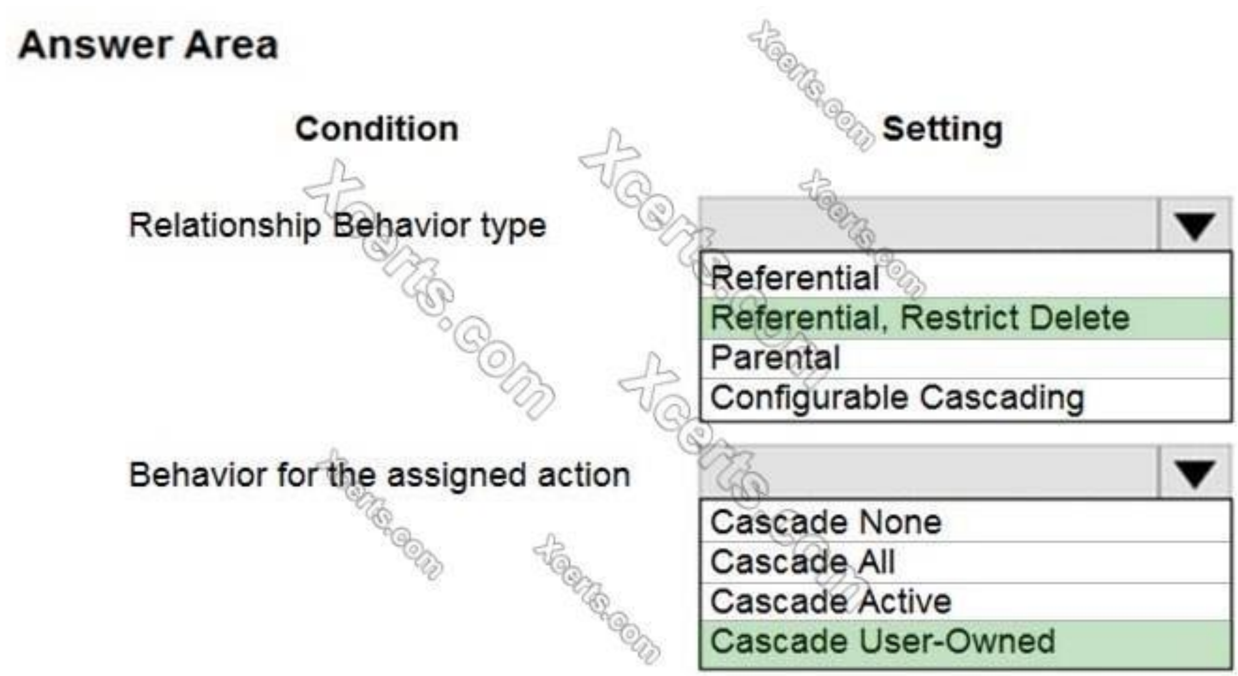


Exhibit B:



A. Please refer to Exhibit B for the answer.

Answer(s): A

Explanation:
Box 1: Referential, Restrict Delete
Restrict: Prevent the Referenced table record from being deleted when referencing tables exist.

Box 2: Cascade User Owned
Cascade User Owned: perform the action on all referencing table records owned by the same user as the referenced table record.

Reference:
https://docs.microsoft.com/en-us/powerapps/developer/data-platform/configure-entity-relationship-cascading-behavior

QUESTION: 17
DRAG DROP
A company has Common Data Service (CDS) environments for development, test, and production.

You have a model-driven app that consists of two solutions. The solutions include settings and reference data. You plan to move the solutions, app settings, and reference data from a development environment to a production environment.

You export each solution from the development environment as a zip file.

You run the Configuration Manager to export the settings and reference data as zip files. You need to prepare the app and its settings for deployment.
Which four actions should you perform in sequence? To answer, move the appropriate actions from the list of actions to the answer area and arrange them in the correct order.

NOTE: More than one order of answer choices is correct. You will receive credit for any of the correct orders you select.

Select and Place:

Exhibit A:

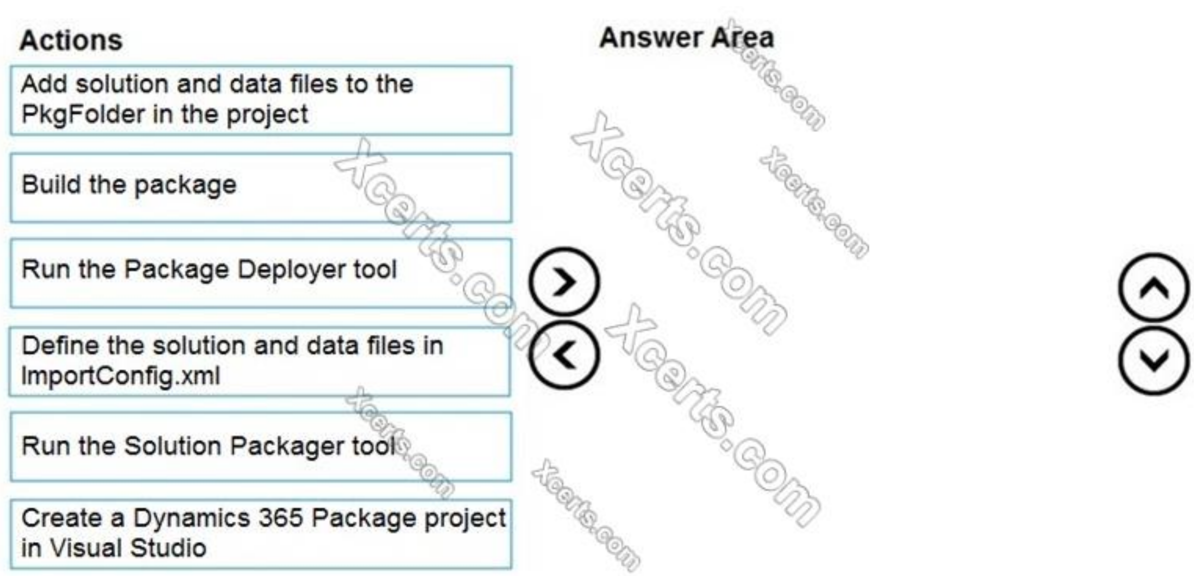
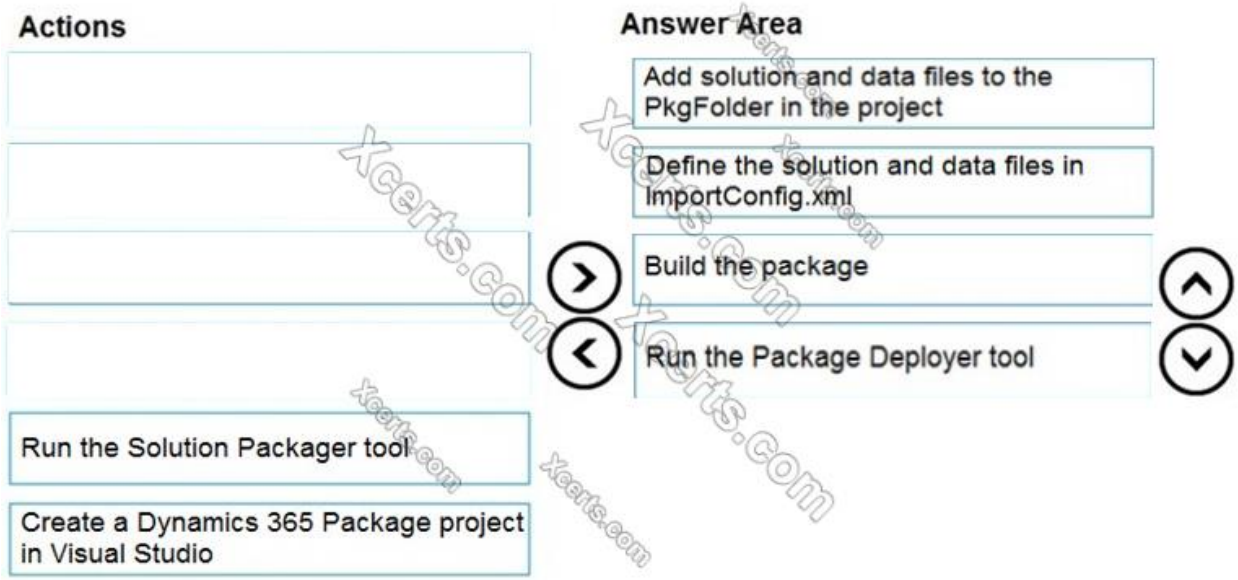


Exhibit B:



A. Please refer to Exhibit B for the answer.

Answer(s): A

Explanation:
Step 1: Add your files to the project
In the Solutions Explorer pane, add your solutions and files under the PkgFolder folder.
For each file that you add under the PkgFolder folder, in the Properties pane, set the Copy to Output Directory value to Copy Always. This ensures that your file is available in the generated package.

Step 2: Define the solution and data files in ImportConfig.xml
Define the package configuration by adding information about your package in the ImportConfig.xml file available in the PkgFolder.

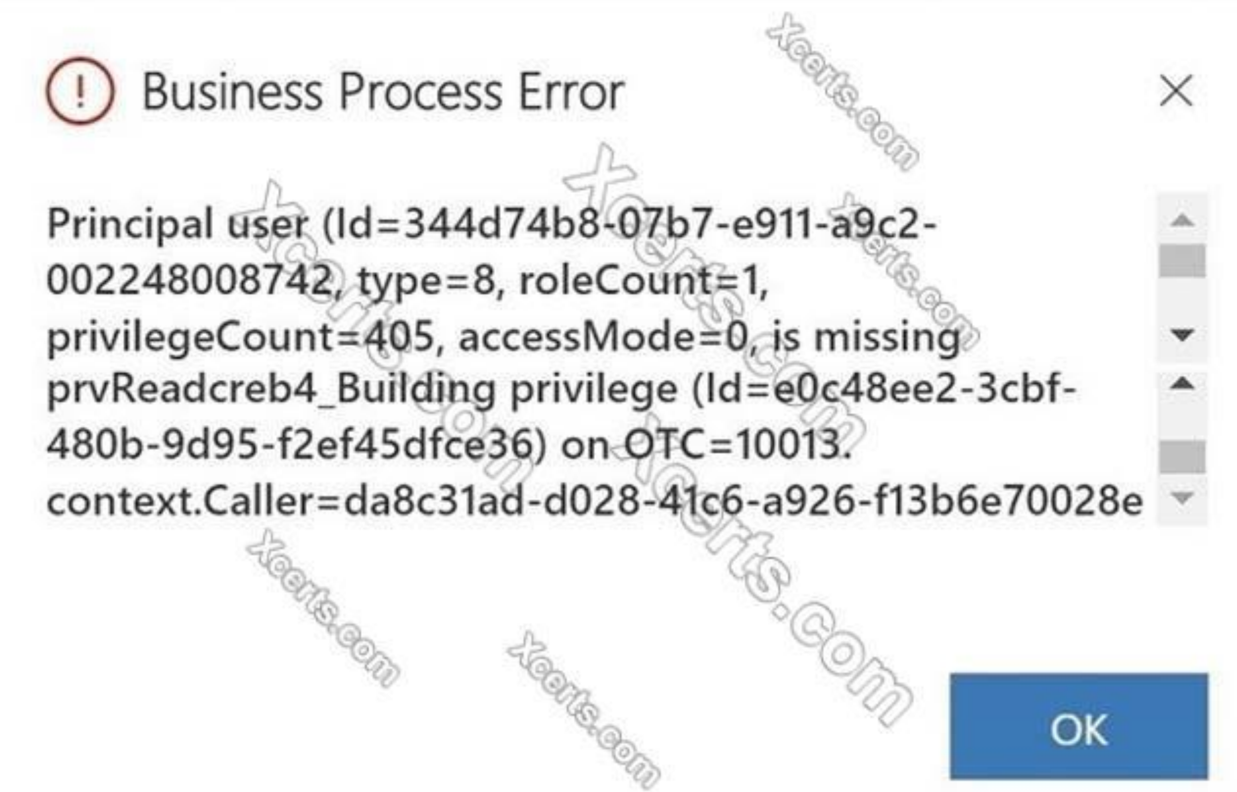
Step 3: Build the package

Step: Run the Package Deployer tool
After you create a package, you can deploy it on the Dataverse instance by using either the Package Deployer tool or Windows PowerShell.

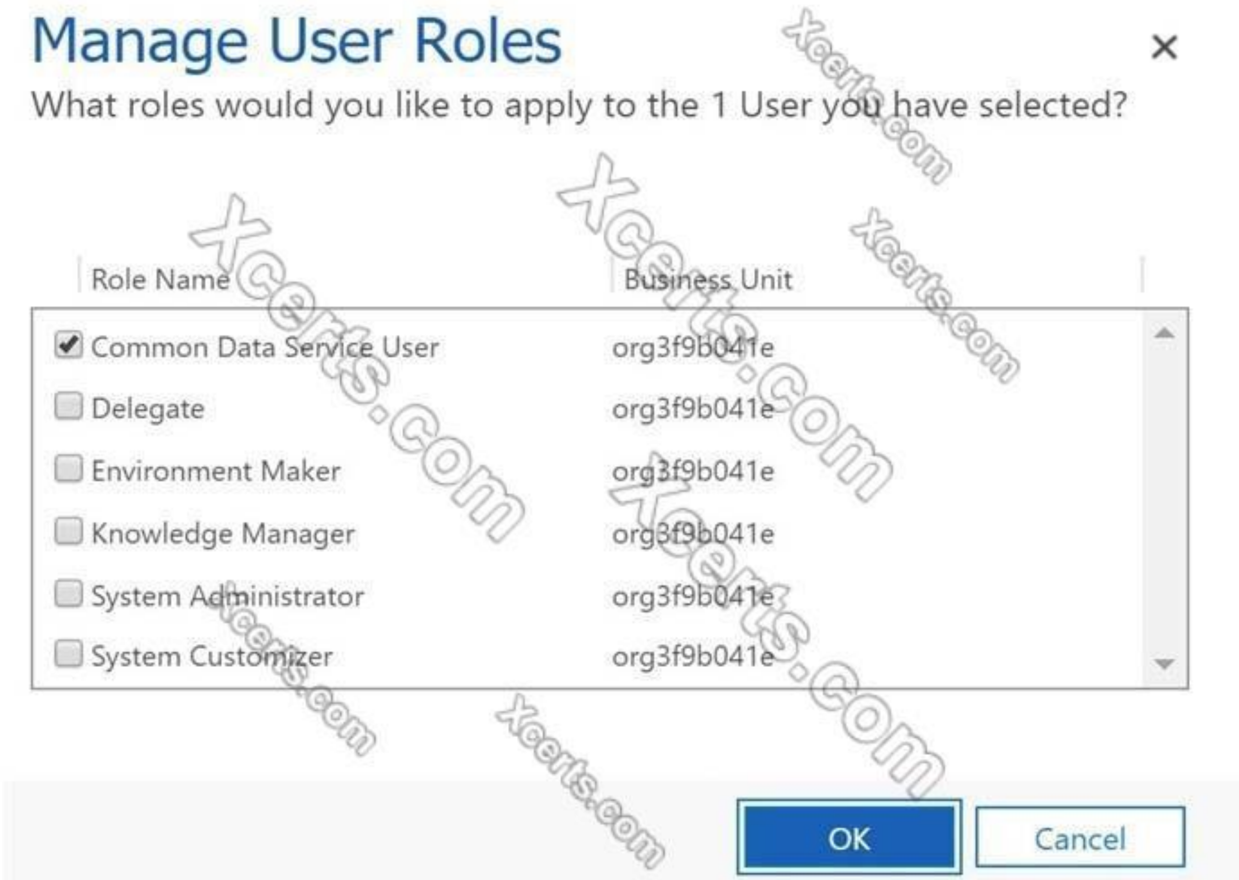
Reference:
https://docs.microsoft.com/en-us/power-platform/alm/package-deployer-tool

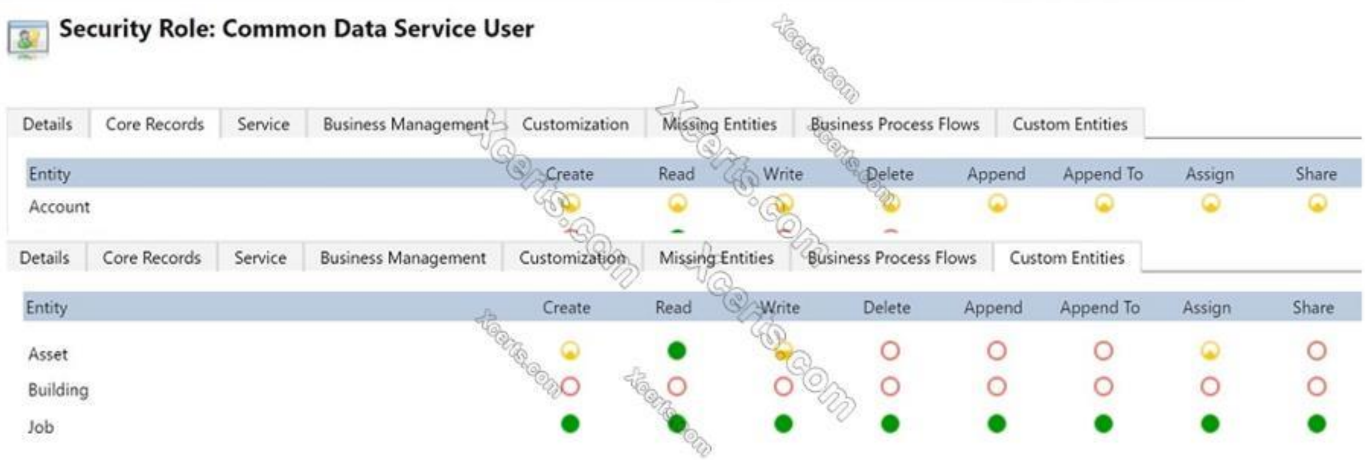
QUESTION: 18
HOTSPOT
You have a model-driven app that uses the Common Data Service (CDS). You create three custom entities that are in many-to-one parental relationships with the Account entity.

You run a real-time workflow that assigns an account you own to another user. You receive the error message as shown in the Error Message exhibit. (Click the Error Message tab.)



You check the security roles for the user as shown in the Manage User Roles exhibit. (Click the Manage User Roles tab.) You also check the privileges for that role as shown in the Common Data Service User Security Role exhibit. (Click the Security Role tab.)





You need to prevent the error from recurring.

For each of the following statements, select Yes if the statement is true. Otherwise, select No.
NOTE: Each correct selection is worth one point.
Hot Area:

Exhibit A:

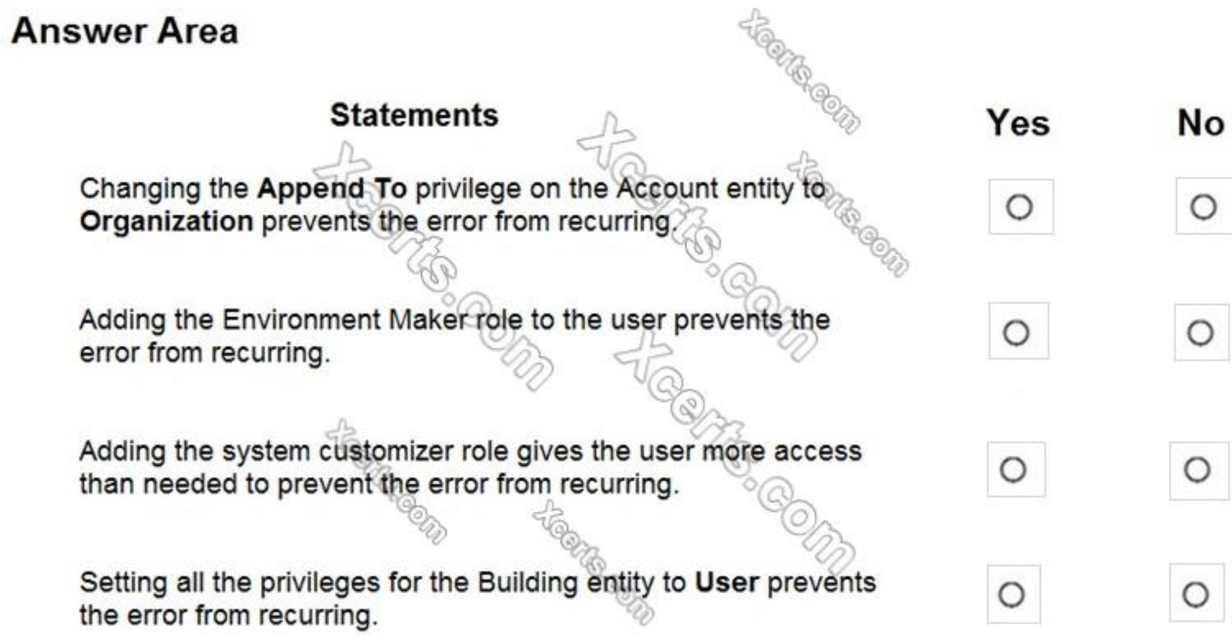
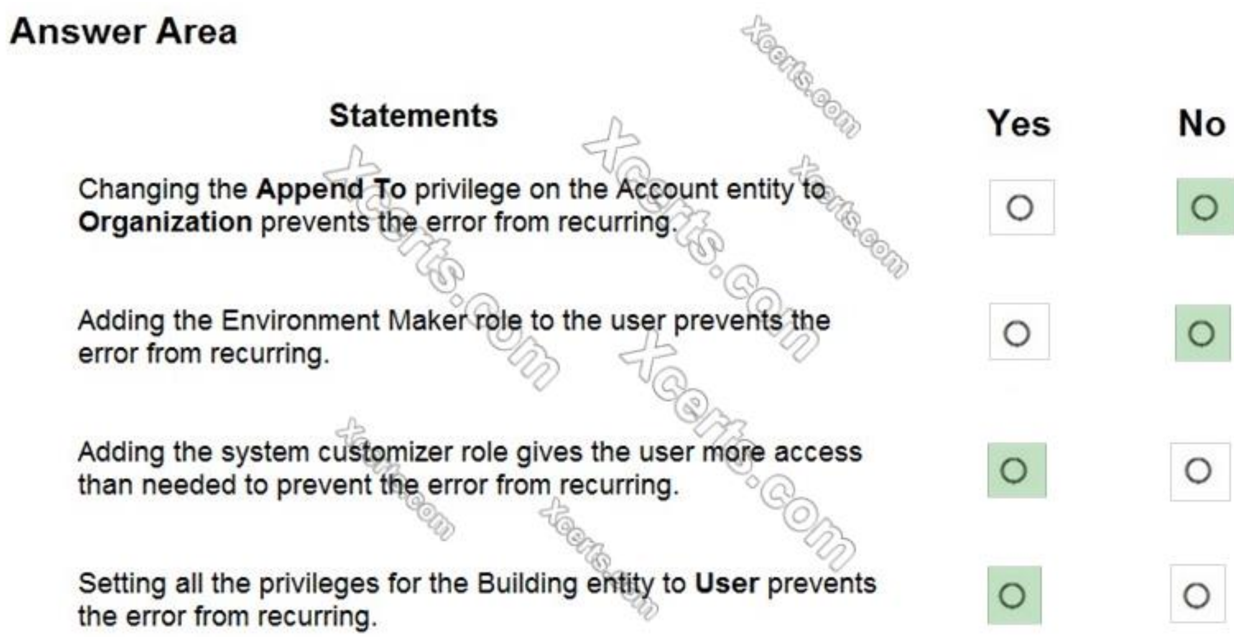


Exhibit B:



A. Please refer to Exhibit B for the answer.

Answer(s): A

Explanation:
Box 1: No
There is a read error.

Box 2: No

Note: The Environment Maker role can create resources within an environment including apps, connections, custom connectors, gateways, and flows using Power Automate.

Box 3: Yes
The System Customizer role is similar to the System Administrator role which enables non-system administrators to customize Dynamics 365. A Customizer is a user who customizes entities, attributes and relationships.

Box 4: Yes

QUESTION: 19
DRAG DROP
A company is creating a new system based on Common Data Service. You need to select the features that meet the company's requirements.

Which options should you use? To answer, drag the appropriate options to the correct requirements. Each option may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.

NOTE: Each correct selection is worth one point.
Select and Place:

Exhibit A:

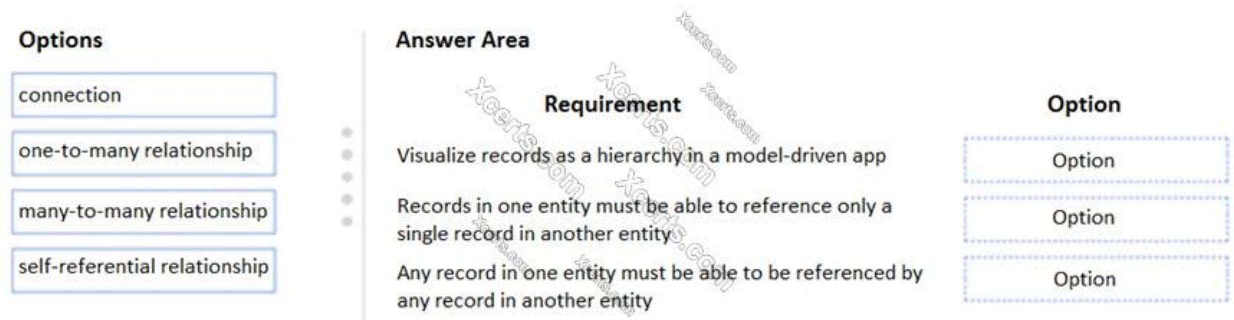
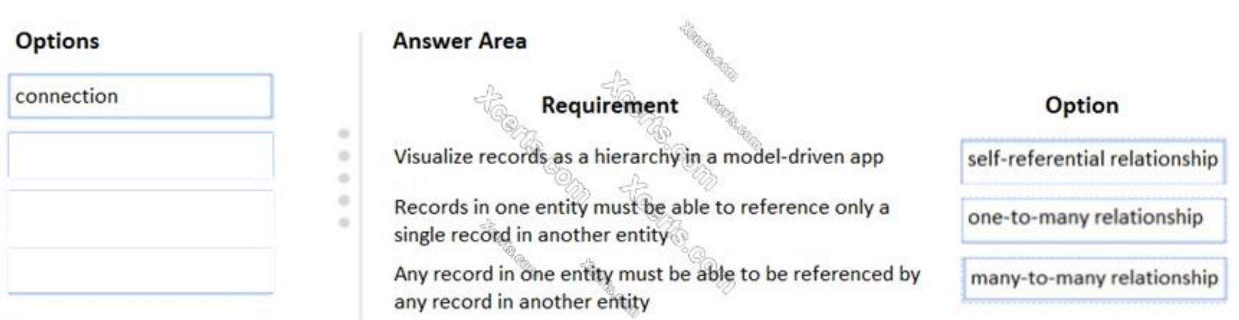


Exhibit B:



A. Please refer to Exhibit B for the answer.

Answer(s): A

Reference:
https://docs.microsoft.com/en-us/powerapps/maker/common-data-service/create-edit-entity-relationships

QUESTION: 20
HOTSPOT
A school district wants to standardize student information and student performance records. Students in the district are assigned to a specific school. Students are evaluated using class records.

When students move between schools in the middle of a school year, the student's current class history must be available to the administrators at the new school.

You need to configure Microsoft Dataverse tables to connect the class history records to their respective class records.

How should you configure the table? To answer, select the appropriate options in the answer area.
NOTE: Each correct selection is worth one point.
Hot Area:

Exhibit A:

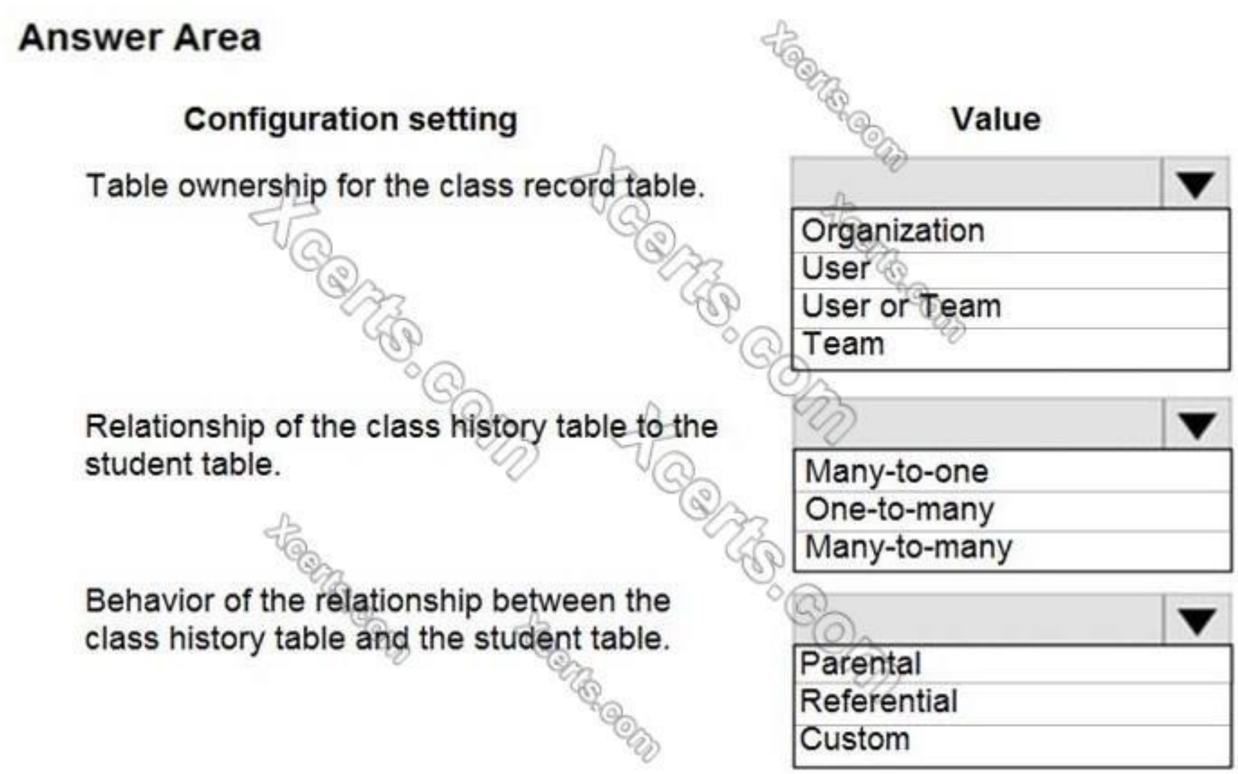
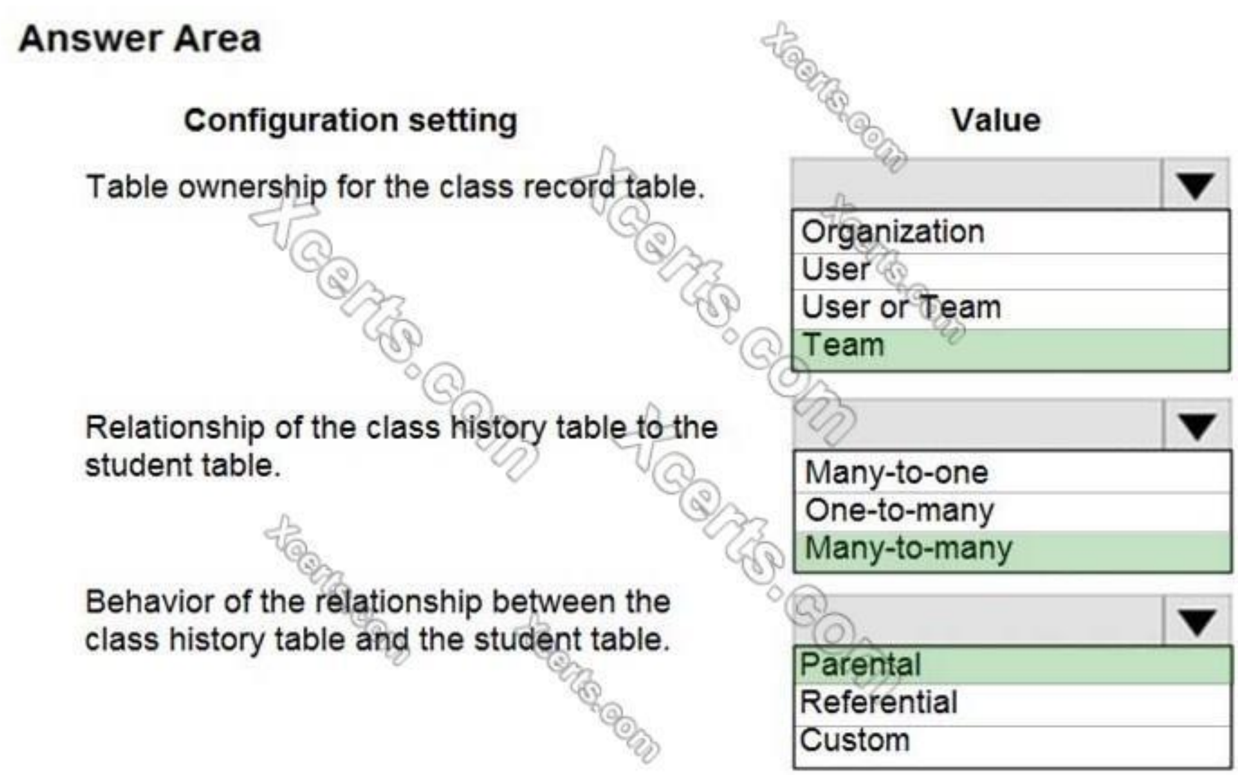


Exhibit B:



A. Please refer to Exhibit B for the answer.

Answer(s): A

Explanation:
Box 1: Team
'the student’s current class history must be available to the administrators at the new school.'
Box 2: Many-to-one
Box 3: Parental
The N:1 (many-to-one) relationship type exists in the user interface because the designer shows you a view grouped by tables. 1:N relationships actually exist between tables and refer to each table as either a Primary/ Current table or Related table. The related table, sometimes called the child table, has a lookup column that allows storing a reference to a row from the primary table, sometimes called the parent table. A N:1 relationship is just a 1:N relationship viewed from the related table.

Reference:
https://docs.microsoft.com/en-us/powerapps/developer/data-platform/user-team-entities
https://docs.microsoft.com/en-us/powerapps/maker/data-platform/create-edit-entity-relationships#types-of-table-relationships

QUESTION: 21
HOTSPOT
You are developing an app for a sales team to record contact details in their Common Data Service database.

The app must handle loss of network and save the data to Common Data Service when reconnected.

The main screen of the app has a form to collect contact data and a button. The OnSelect property for the button has the following expression:

```
If(
  Connection.Connected,
  Patch(
    Contacts,
    Defaults(Contacts),
    {
      'First Name': DataCardValue_FirstName.Text, 'Last Name': DataCardValue_LastName.Text
    }
  );
  Navigate(ConfirmationScreen,ScreenTransition.Fade)
  ,
  ClearCollect(
  LocalRecord,
  {
    'First Name': DataCardValue_FirstName.Text, 'Last Name': DataCardValue_LastName.Text
  }
);
SaveData(LocalRecord, "LocalRecord");
Navigate(PendingScreen,ScreenTransition.Fade)
)
```

For each of the following statements, select Yes if the statement is true. Otherwise, select No.
NOTE: Each correct selection is worth one point.

Hot Area:

Exhibit A:

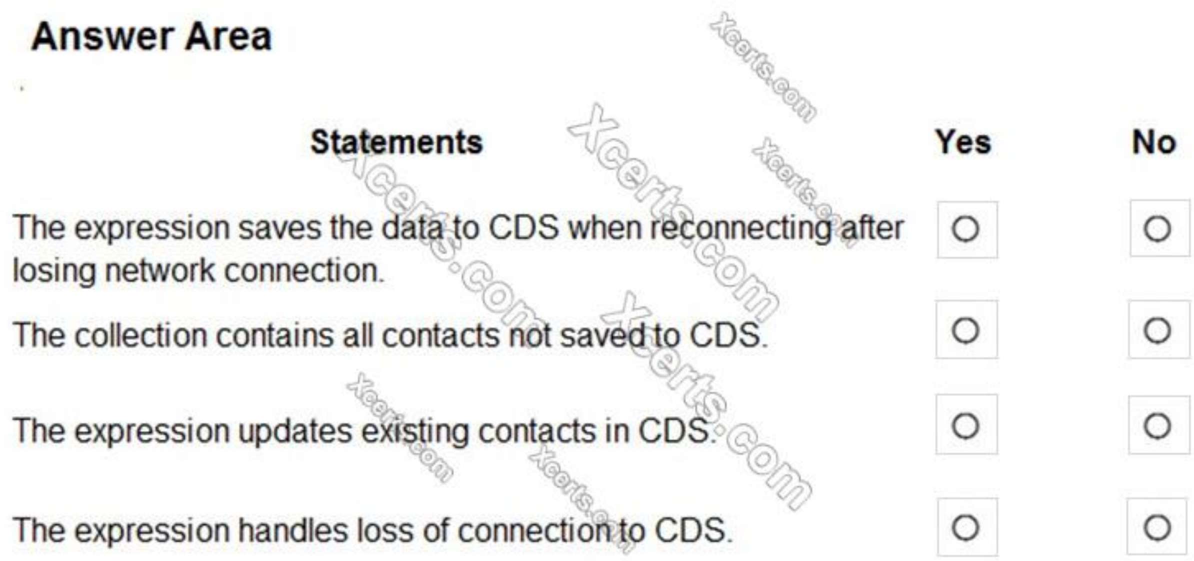
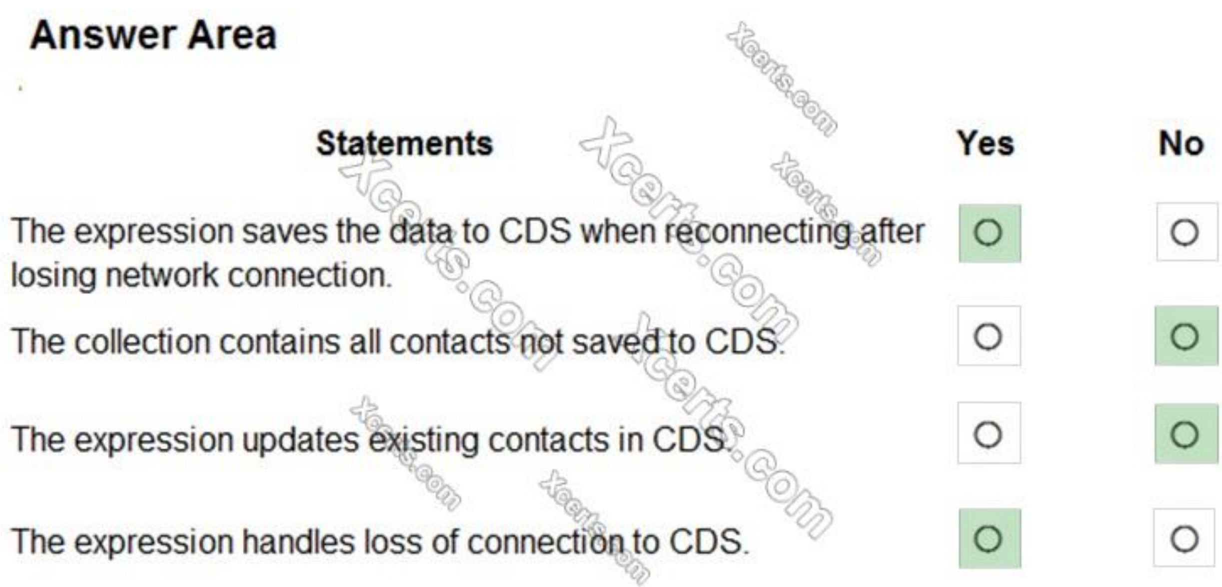


Exhibit B:



A. Please refer to Exhibit B for the answer.

Answer(s): A

Explanation:
Box 1: Yes
LoadData and SaveData combine to form a simple mechanism to store small amounts of data on a local device. By using these functions, you can add simple offline capabilities to your app.
Box 2: No
Box 3: No
Box 4: Yes

Reference:
https://docs.microsoft.com/en-us/powerapps/maker/canvas-apps/offline-apps

Exam Topic: Create and configure Power Apps

Testlet 1

Case study
This is a case study. Case studies are not timed separately. You can use as much exam time as you would like to complete each case. However, there may be additional case studies and sections on this exam. You must manage your time to ensure that you are able to complete all questions included on this exam in the time provided.

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Background
Bellows Sports is the region’s newest, largest, and most complete sports complex. The company features baseball and soccer fields and two full-size hockey rinks. The complex provides coaching, recreational leagues, a pro shop, and state-of-the art customer and player amenities.
The company is organized into the following divisions:

- Baseball
- Hockey
- Soccer

Bellow Sports runs tournaments several times per year. Each tournament runs six weeks.

Current environment

Requirements
Bellow Sports tracks players and events in Microsoft Excel workbooks and uses email to communicate with players, partners, and prospective customers. The company uses a proprietary cloud-based accounting system.

The company relies on referrals from athletes for new business. Bellows uses a third-party marketing company to gather feedback and referrals from athletes. The third-party marketing company uploads a Microsoft Excel file containing lists of potential customers and players to the FTP site that Bellows Sports maintains.

Tournaments
Customer information is stored in the Accounts entity. Each tournament record must list the associated sales representative as the tournament owner. When team members create tournament records they must enter the start date for a tournament. The end date of the tournament must be automatically calculated.

Registration form
You must create a form to allow players to register for tournaments. The registration form must meet the following requirements:

Division	Requirement
Baseball	Capture the age and weight of the player. The height field must not display.
Hockey	Capture the age, height, and weight of the player.
Soccer	Capture the age of the player. The height and weight fields must not display.

- Each division has tournaments that take place in specific locations. Users must be able to select the division for a tournament location.
- Information about upcoming tournaments must be pre-located into the registration form when the registration form loads.
- The form must include a custom button that sends an email confirmation to the player after the player registers.
- The button must not be visible until after the form is saved.

Security
The company identifies the following job roles:

Role	Tasks
Sales representative	These users will enter data into Dynamics 365 Customer Service.
Intern	These users will create Power Apps apps, and connectors, and create Power Automate flows.
Manager	These users will add users, assign security roles, and manage data storage.

You must grant users the minimum permissions required to perform their job tasks.

Data automation
- Customer name must be added to Dynamics 365 Finance automatically after it is entered.
- You must produce a report that details the number of registrations for a day and send the report as a PDF to the management team.
- You must implement mechanisms to handle all code-related errors.
- When a customer record is updated, the system must look up the account number for the customer in the accounting system.
- Referrals must be imported into the system as soon as they are available.

Issues Apps
- The captions for the New and Save buttons do not render properly on the form.
- Interns can create apps but cannot interact with their own data.

Portal
The query for all registered users must return the data categorized by division. Queries must return only the Name and Sport fields. Queries return all fields. The query is as follows:

```
GET [Organization URI]/api/data/v9.1/accounts?
&$orderby=Name, sport
&$filter=sport ne null
```

Solution checker issues
You run solution checker and observe Plug-in or workflow activity errors in the following code sets:

Set	Code	Error message
Code set 1	CS101 var columns = new ColumnSet(); CS102 columns.AllColumns = true; CS103 var query = new QueryExpression("account"); CS104 query.ColumnSet = columns; CS105 var results = service.RetrieveMultiple(query);	il-specify-column
Code Set 2	CS201 WebRequest request = WebRequest.Create ("https://www.bellows.com/api/stuff"); CS202 HttpWebResponse response = new HttpWebResponse(); CS203 CS204 respone = request.GetResponse(); CS205 response.Close();	il-turn-off-keepalive

Code
The following code runs when the registration form loads. You must implement a mechanism to handle errors that occur in the code:

```
UpdateRecord.js (Line numbers are included for reference only.)

UR01
UR02 var data =
UR03      {
UR04        "name" : "Updated Account"
            "creditonhold" : true,
            "description" : "This is an account update",
            "revenue" : 10,000,
            "Division" : 2
          }
UR05 . . .
UR06
```

QUESTION: 1
HOTSPOT
You need to analyze and identify the issues that solution checker identifies.

What is the missing or bad code? To answer, select the appropriate options in the answer area.
NOTE: Each correct selection is worth one point.

Hot Area:

Exhibit A:

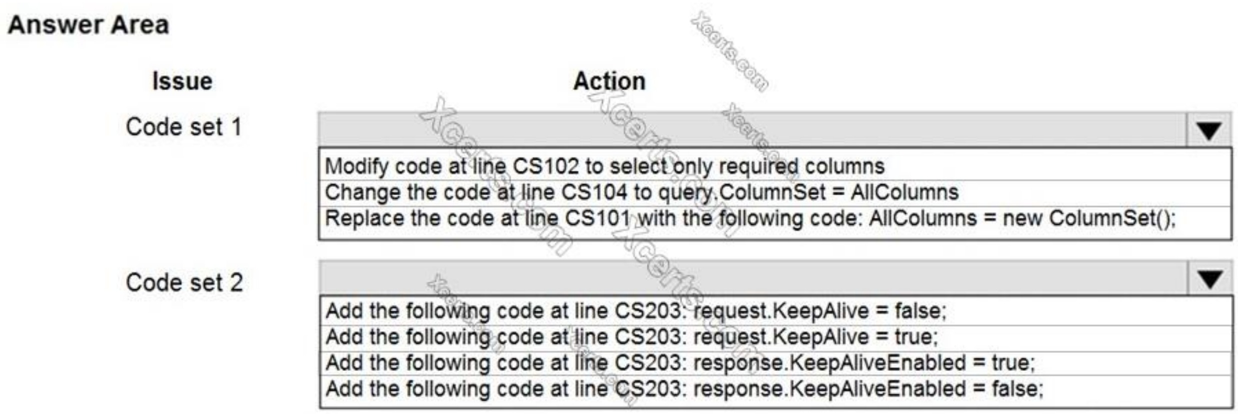
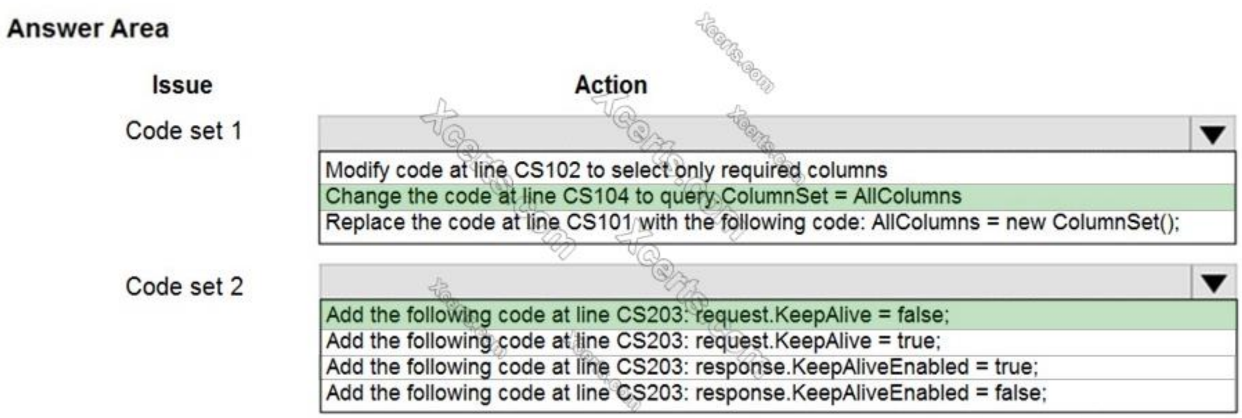


Exhibit B:



A. Please refer to Exhibit B for the answer.

Answer(s): A

Explanation:
Box 1: Change the code at line CS104 to query.CoumnSet = AllColumns Scenario: Error Message: il-specify-column

Symptoms
Retrieving all columns can cause:

- Performance issues due to the amount of data being retrieved
- Unintended plug-in/process execution

Guidance
For optimal performance, you should only select the minimum amount of data needed by your application when querying Microsoft Dataverse data.

ColumnSet Parameter
When you use the IOrganizationService.Retrieve method set the columnSet parameter to a ColumnSet instance with specified columns. When you use QueryExpression set the ColumnSet property with the required attributes.

Box 2: Add the following code at line CS203: request.KeepAlive =false;
Scenario: Error message: Il-turn-off-keepalive
Symptoms
If a plug-in makes external web requests and is trying to use KeepAlive on a closed connection, the plug-in will ultimately fail to execute the web request.

If the plug-in is registered:

Synchronously, users may experience:
- Unresponsive model-driven apps
- Slow client interactions
- The browser stops responding

Asynchronously, plug-in executions may take an extended period of time before failing.

Guidance
In HTTP 1.1, all connections are considered persistent (KeepAlive is true) unless declared otherwise. Due to the fact that plug-ins run in isolation, the Sandbox service translates into them being short-lived executions that generally would not benefit from KeepAlive. To avoid problems with connecting to external services we recommend disabling KeepAlive within plug-ins. This is done by setting KeepAlive to false.

Reference:
https://docs.microsoft.com/en-us/powerapps/developer/data-platform/best-practices/business-logic/set-keepalive-false-interacting-external-hosts-plugin
https://docs.microsoft.com/en-us/powerapps/developer/data-platform/best-practices/work-with-metadata/retrieve-specific-columns-entity-via-query-apis

Exam Topic: Create and configure Power Apps

Testlet 2

Case study
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Background

Contoso Pharmaceuticals manufactures and sells drugs to retail and wholesale pharmacies, hospitals, and research facilities.

The company plans to implement Dynamics 365 Sales and Dynamics 365 Finance.

Current environment

- Contoso maintains a Microsoft Excel workbook that lists all drugs they supply.
- Pharmacies submit order requests through email.
- All information at customer locations is handwritten by customer representatives.
- Contoso uses Cerner, which is a medical industry application that uses a proprietary database.
- Some accounts are referrals from other pharmacies.
- Every pharmacy has its own Dynamics 365 Sales instance.

Requirements

General
Contoso wants to ensure that there is minimal custom code and custom connectors in the system.

Accounts

- Ensure that the names of the pharmacies are synced between the accounting and the customer management systems.
- Account numbers should be entered automatically into the pharmaceutical system that is in a Cerner database and kept in sync.
- When the account is entered into the system, extra fields must appear if the referral customer box is selected. If the box is not selected, the extra fields must not appear.
- A trigger must be created that changes the Priority field to 1 in the Account record 10 days after an Account record is created.
- A field named Priority_Trigger must be created to trigger the Priority field.

- A field named Facility type field must be added in order to select whether a customer is a retail pharmacy, wholesale pharmacy, research facility, or hospital.

Users

- UserA must be able to create and publish Power Apps apps.
- UserB must be the owner of all the systems and be able to provide permissions and create all new environments.
- UserC must be able to create apps connected to the systems and update the security roles and entities. Pharmacy representatives must only be able to run the apps and access their own records.
- Access to the accounting Power Apps app must be restricted to accounting team members.
- End users must have minimum access to the required systems.
- Only supervisors must be able to view phone numbers in the Accounts form.
- Developers must be able to create new apps for all users.
- Sales users must only have access to their own records.

Reporting
Pharmacy orders must be displayed in four graphs as follows:

- Annual revenue over $100,000
- Annual revenues under $100,000
- Research facilities
- Hospitals

The graphs must be interactive, and users must be able to drill down on any dimension.

Customizations

- Ensure that notifications are sent to the sales team when a lead is added by using Slack.
- Ensure that leads have a review stage added to the sales process.
- Doctors must be manually added to a custom entity named Doctor if the doctor is not listed.
- Refill dates for customer prescriptions should be automatically determined and a notification should be sent to the customer.
- Fields for the doctor’s name and phone number must be displayed in the customer record.
- The doctor entered on the customer’s record must be validated against doctors that exist in the system.
- The new solution will be sold to other pharmacies for use. The application must not allow changes to be made.
- The solution must be error free so that when it is installed in other environments it does not cause issues.
- A custom mobile app must be created to allow salespeople to add or search by pharmacy name.
- Pharmacy records must be uniquely identified by pharmacy name, address, contact name, and phone number.
- When a pharmacy is added by using the mobile app, the phone number must be validated to be all digits.
-

QUESTION: 1
You need to ensure that users can create the required charts.
Which two actions should you perform? Each correct answer presents part of the solution.
NOTE: Each correct selection is worth one point.

A. Create a quick view form to show the Accounts entity.
B. Configure filter fields in the Annual revenue field.
C. Add the Facility field to the account form.
D. Delete the Annual revenue field from the account form.
E. Create a view with annual revenue sorted lowest value to highest value.

Answer(s): B, C

Explanation:
Pharmacy orders must be displayed in four graphs as follows:
- Annual revenue over $100,000
- Annual revenues under $100,000
- Research facilities
- Hospitals

The graphs must be interactive, and users must be able to drill down on any dimension.

Exam Topic: Create and configure Power Apps

Testlet 3

Case study
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Background

Current environment
Adventure Works Cycles wants to replace their paper-based bicycle manufacturing business with an efficient paperless solution. The company has one manufacturing plant in Seattle that produces bicycle parts, assembles bicycles, and distributes finished bicycles to the Pacific Northwest.

Adventure Works Cycles has a retail location that performs bicycle repair and warranty repair work. The company has six maintenance vans that repair bicycles at various events and residences.

Adventure Works Cycles recently deployed Dynamics 365 Finance and Dynamics 365 Manufacturing in a Microsoft-hosted environment for financials and manufacturing. The company plans to leverage the Microsoft Power Platform to migrate all of their distribution and retail workloads to Dynamics 365 Unified Operations.

The customer uses Dynamics 365 Sales. Dynamics 365 Customer Service and Dynamics 365 Field Service.

Retail store information
Adventure Works Cycle has one legal entity, four warehouses, and six field service technicians. Warehouse counting is performed manually by using a counting journal. All warehouse boxes and items are barcoded.

- Adventure Works Cycle has one legal entity, four warehouses, and six field service technicians.
- Warehouse counting is performed manually by using a counting journal. All warehouse boxes and items are barcoded.
- The Adventure Works Cycles retail location performs bicycle inspections and performance tune-ups.
- Technicians use paper forms to document the bicycle inspection performed before a tune-up and any additional work performed on the bicycle.
- Adventure Works Cycles uses a Power Apps app for local bike fairs to attract new customers.
- A canvas app is being developed to capture customer information when customers check in at the retail location. The app has the following features:
    - Customer selects yes or no if they are on the mailing list.
    - Customer selects the amount of times they have visited the store.
    - Customer selects the type of service needed.
    - The search result returns all last name records that match the search term.

Technology

Requirements
- A plug-in for Dynamics 365 Sales automatically calculated the total billed time from all activities on a particular customer account, including sales representative visits, phone calls, email correspondence, and repair time compared with hours spent.

- A shipping API displays shipping rates and tracking information on sales orders. The contract allows for 3,000 calls per month.
- Ecommerce orders are processed in batch daily by using a manual import of sales orders in Dynamics 365 Finance.
- Microsoft Teams is used for all collaboration.
- All testing and problem diagnostics are performed in a copy of the production environment.
- Customer satisfaction surveys are recorded with Microsoft Forms Pro. Survey replies from customers are sent to a generic mailbox.

Automation

- A text message must be automatically sent to a customer to confirm an appointment and to notify when a technician is on route that includes their location.
- Ecommerce sales orders must be integrated into Dynamics 365 Finance and then exported to Azure every night.
- A text alert must be sent to employees scheduled to assist in the repair area of the retail store if the number of repair check-ins exceeds eight.
- Submitted customer surveys must generate an email to the correct department. Approval and follow-up must occur within a week.

Reporting

- The warehouse manager's dashboard must contain warehouse counting variance information.
- A warehouse manager needs to quickly view warehouse KPIs by using a mobile device.
- Power BI must be used for reporting across the organization.

User experience

- Warehouse counting must be performed by using a mobile app that scans barcodes on boxes.
- All customer repairs must be tracked in the system no matter where they occur.
- Qualified leads must be collected from local bike fairs.

Issues

- Warehouse counting must be performed by using a mobile app that scans barcodes on boxes.
- All customer repairs must be tracked in the system no matter where they occur.
- Qualified leads must be collected from local bike fairs.

Internal

- User1 reports receives an intermittent plug-in error when viewing the total bill customer time.
- User2 reports that Azure consumption for API calls has increased significantly to 100 calls per minute in the last month.
- User2 reports that sales orders have increased.
- User5 receives the error message: 'Endpoint unavailable' during a test of the technician dispatch ISV solution.
- The parts department manager who is the approver for the department is currently on sabbatical.

External
- CustomerB reports that the check-in app returned only one search result for their last name, which is not the correct name.
- Nine customers arrive in the repair area of the retail store, but no texts were sent to scheduled employees.
- Customers report that the response time from the information email listed on the Adventure Works Cycles website is greater than five days.
- CustomerC requested additional information from the parts department through the customer survey and has not received a response one week later.
-

QUESTION: 1
You need to resolve CustomerB's issues with the check-in application.
Which two options can you use? Each correct answer presents a complete solution.
NOTE: Each correct selection is worth one point.

A. LookUp to Filter
B. Filter to LookUp
C. Search to LookUp
D. LookUp to Search

Answer(s): A, D

Explanation:
CustomerB reports that the check-in app returned only one search result for their last name, which is not the correct name.

The Filter function finds records in a table that satisfy a formula. Use Filter to find a set of records that match one or more criteria and to discard those that don't.

The LookUp function finds the first record in a table that satisfies a formula. Use LookUp to find a single record that matches one or more criteria.
The Search function finds records in a table that contain a string in one of their columns.

Reference:
https://docs.microsoft.com/en-us/powerapps/maker/canvas-apps/functions/function-filter-lookup

QUESTION: 2
DRAG DROP
You need to identify why employees are not receiving notification that nine customers are checked in and waiting in the repair area.

Which components should you test for each step? To answer, drag the appropriate components to the correct steps. Each component may be used once, more than once, or not at all.

You may need to drag the split bar between panes or scroll to view content.

NOTE: Each correct selection is worth one point.

Select and Place:

Exhibit A:

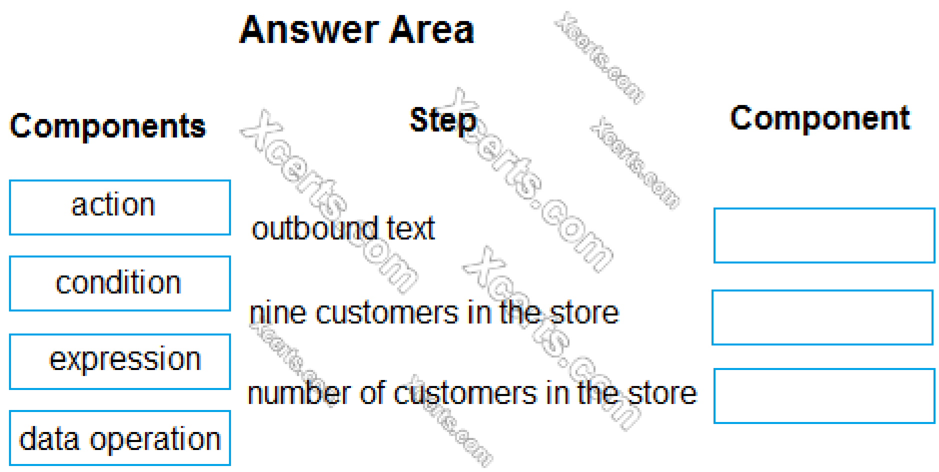
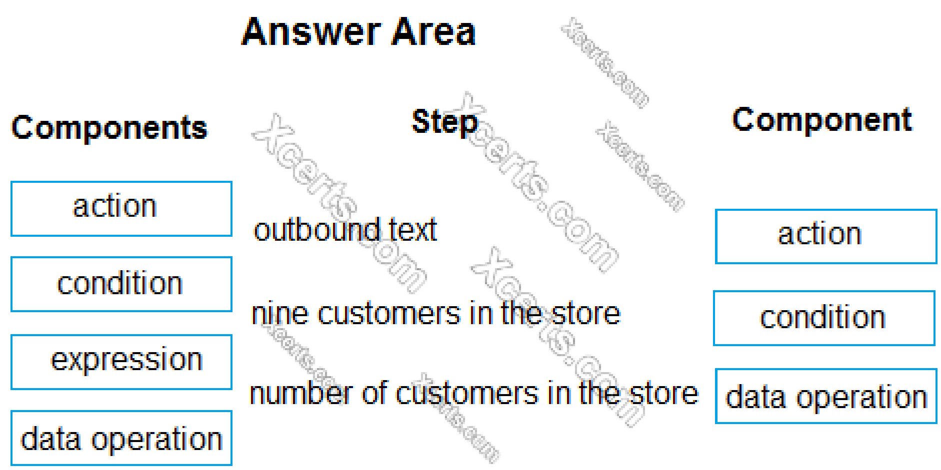


Exhibit B:



A. Please refer to Exhibit B for the answer.

Answer(s): A

Explanation:
Scenario: A text alert must be sent to employees scheduled to assist in the repair area of the retail store if the number of repair check-ins exceeds eight.

Box 1: action
Box 2: condition
Box 3: data operation

QUESTION: 3
You need to improve the efficiency of counting warehouse inventory. What should you create?

A. a model-driven app that allows the user to key in inventory counts
B. a Power BI dashboard that shows the inventory counting variances
C. a flow that updates the warehouse counts as the worker performs the count
D. a canvas app that scans barcodes to allow a warehouse worker to select inventory counts

Answer(s): D

Explanation:
Scenario: Warehouse counting is performed manually by using a counting journal. All warehouse boxes and items are barcoded.

Barcode scanner control for canvas apps: Scans barcodes, QR codes, and data-matrix codes on an Android or iOS device.

Description
The control opens a native scanner on an Android or iOS device. The scanner automatically detects a barcode, a QR code, or a data-matrix code when in view.

Reference:
https://docs.microsoft.com/en-us/powerapps/maker/canvas-apps/controls/control-new-barcode-scanner

QUESTION: 4
HOTSPOT
You need to select visualization components.

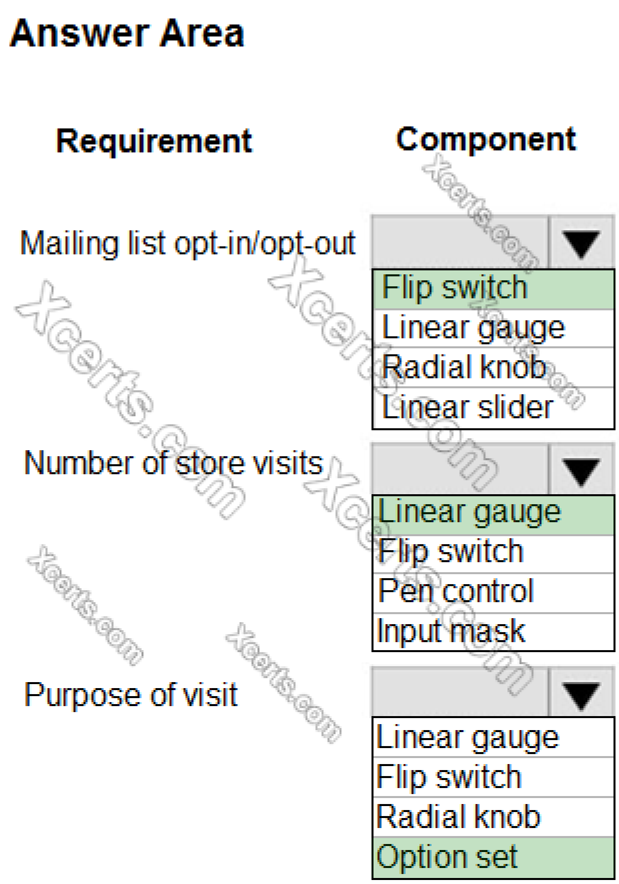
What should you use? To answer, select the appropriate options from the answer area.
NOTE: Each correct selection is worth one point.
Hot Area:

Exhibit A:

Answer Area

Requirement	Component
Mailing list opt-in/opt-out	Flip switch Linear gauge Radial knob Linear slider
Number of store visits	Linear gauge Flip switch Pen control Input mask
Purpose of visit	Linear gauge Flip switch Radial knob Option set

Exhibit B:



A. Please refer to Exhibit B for the answer.

Answer(s): A

Explanation:
Scenario: Customer satisfaction surveys are recorded with Microsoft Forms Pro. Box 1: Flip switch
The flip switch is like an on/off switch, providing a choice between two values.

Box 2: Linear gauge
The linear gauge lets your users input numerical values by dragging a slider instead of typing in the exact quantity. The slider provides whole number input and display only. Use this control for any numerical and money columns.

Box 3: Option set
The choice control presents a set of options for your users to choose from when entering data.

You can customize forms (main, quick create, and quick view) and email templates by adding multi-select columns that are called Choices. When you add a choices column, you can specify multiple values that will be available for users to select. When users fill out the form they can select one, multiple, or all the values displayed in a drop-down list.

Reference:

https://docs.microsoft.com/en-us/powerapps/maker/model-driven-apps/additional-controls-for-dynamics-365-for-phones-and-tablets

Exam Topic: Create and configure Power Apps questions

QUESTION: 1
HOTSPOT
A company uses SharePoint for its intranet and other functions. The company has also implemented model- driven apps.

SharePoint users must be able to create contact records in the Common Data Service (CDS), without having to navigate to the model-driven apps.

You need to create a link in SharePoint to open the CDS contact from displaying data from SharePoint. How should you complete the URL? To answer, select the appropriate options in the answer area.
NOTE: Each correct selection is worth one point.
Hot Area:

Exhibit A:

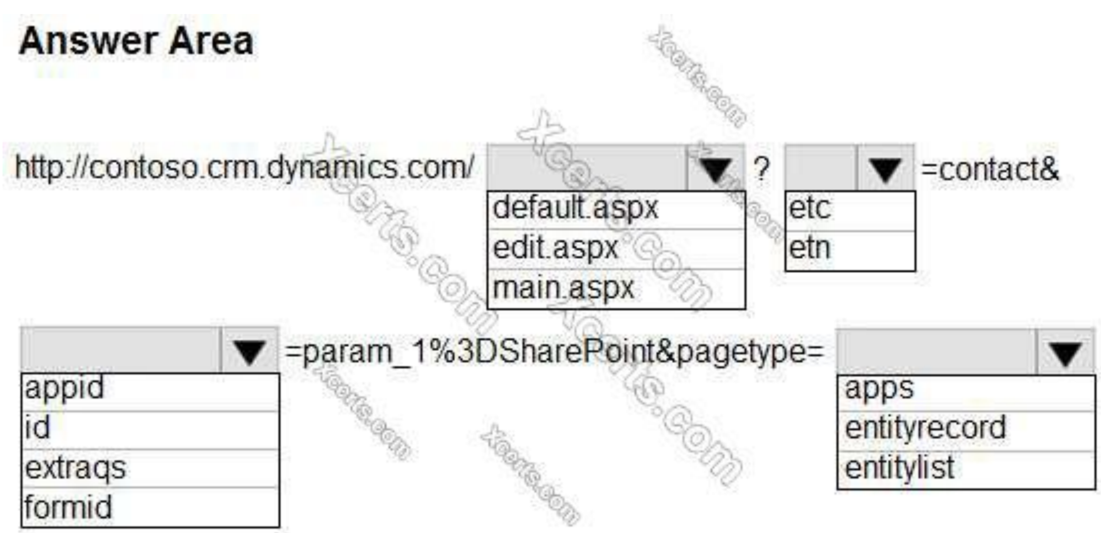
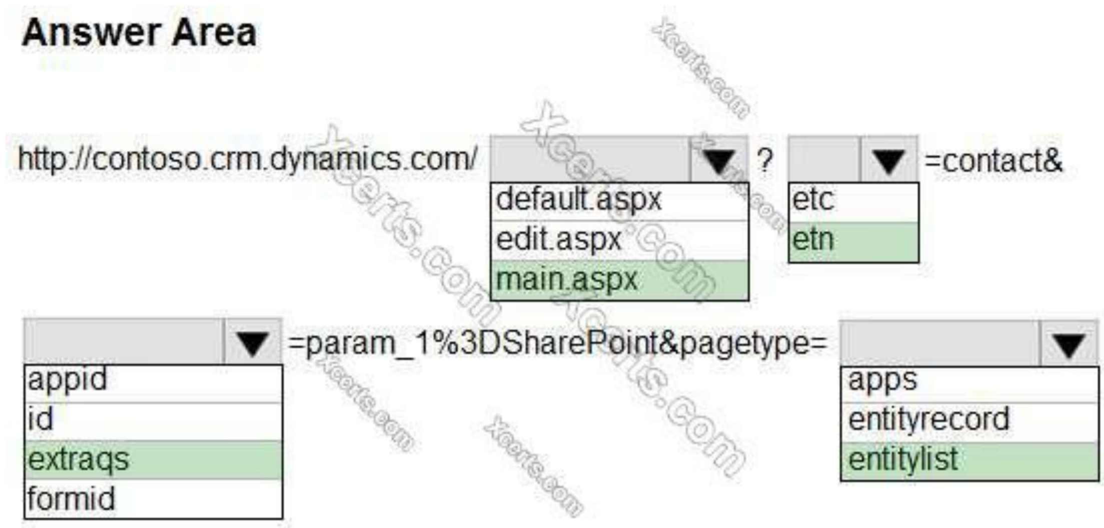


Exhibit B:



A. Please refer to Exhibit B for the answer.

Answer(s): A

Explanation:
Box 1: main.aspx
Example, to open the Active Contacts view.
https://myorg.crm.dynamics.com/main.aspx?etn=contact&pagetype=entitylist&viewid={00000000-0000-0000- 00AA-000010001004}

Box 2: etn
Etn: The logical name of the entity. Important: Do not use the etc (entity type code) parameter that contains an integer code for the entity. This integer code varies for custom entities in different organizations.

Box 3: Extraqs
Extraqs: Optional for forms. This parameter contains encoded parameters within this parameter. When you open a new form by using the URL address, you can include arguments in the extraqs parameter to set field values

Note: You must encode the parameters passed in the extraqs parameter. To encode the parameters, use encodeURIComponent. To use special characters like "=" or "&" in the parameter values, you must double encode (e.g. to set name to A=B&C, it would be extraqs=name%3DA%253DB%2526C).

Box 4: entitylist
Pagetype: The type of page. There are two possible values:
- entityrecord
Displays an entity record form.
- entitylist
Displays an entity view.

Reference:

https://docs.microsoft.com/en-us/powerapps/developer/model-driven-apps/open-forms-views-dialogs-reports-url
https://docs.microsoft.com/en-us/powerapps/developer/model-driven-apps/set-field-values-using-parameters-passed-form

QUESTION: 2
A company uses a model-driven app to record details of laboratory test.
You are asked to create a custom component that makes it easier to capture multiple values from lab test results on mobile devices.

You need to create the interface for the dataset in case the mobile devices lose connection to the network. Which method should you use?

A. SaveData
B. updateView
C. init
D. getClient

Answer(s): A

Explanation:
Use LoadData and SaveData for basic data storage while offline.

Note:
When building mobile apps, one of the most common scenarios app makers face is how to enable their users be productive in situations where there is limited or no connectivity at all. This has been one of the most requested features for PowerApps to allow running apps while being disconnected and to provide some support for offline data caching. In this release of PowerApps, we are delivering the first set of improvements for app makers to achieve that by enabling:
1. Launching the PowerApps mobile player app offline
2. Running apps while being offline
3. Determine when your app is online or offline or in a metered connection by using the Connection signal object.
4. Leverage existing formulas such as LoadData and SaveData for basic data storage while offline.

Reference:
https://powerapps.microsoft.com/sv-se/blog/build-offline-apps-with-new-powerapps-capabilities/

QUESTION: 3
A bank uses a Common Data Service solution to manage clients.
Bank representatives perform client credit checks while the client is present. Credit checks may take up to five minutes to complete.

Bank policy dictates that the bank representative’s app must stay blocked until credit checks are complete.

You need to display a model-driven app while credit checks run to ask the bank representative and client to wait for the credit check to complete.

Which function should you use?

A. Xrm.Navigation.openWebResource("prefix.myPoliteMessage.html")
B. Xrm.Navigation.openAlertDialog(myPoliteMessage)
C. Xrm.Utility.openWebResource("prefix_myPoliteMessage.html")
D. Xrm.Utility.showProgressIndicator(myPoliteMessage)

Answer(s): D

Explanation:
showProgressIndicator displays a progress dialog with the specified message.

Any subsequent call to this method will update the displayed message in the existing progress dialog with the message specified in the latest method call.

The progress dialog blocks the UI until it is closed using the closeProgressIndicator method. So, you must use this method with caution.

Reference:
https://docs.microsoft.com/en-us/powerapps/developer/model-driven-apps/clientapi/reference/xrm-utility/showprogressindicator

QUESTION: 4
DRAG DROP
You are creating a model-driven app.
Users need to see only the entities in the app navigation that are relevant to their role and their method of accessing the app.

You need to restrict entities on the sub-areas in the SiteMap.

Which properties should you use? To answer, drag the appropriate properties to the correct requirements. Each property may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.

NOTE: Each correct selection is worth one point.
Select and Place:

Exhibit A:

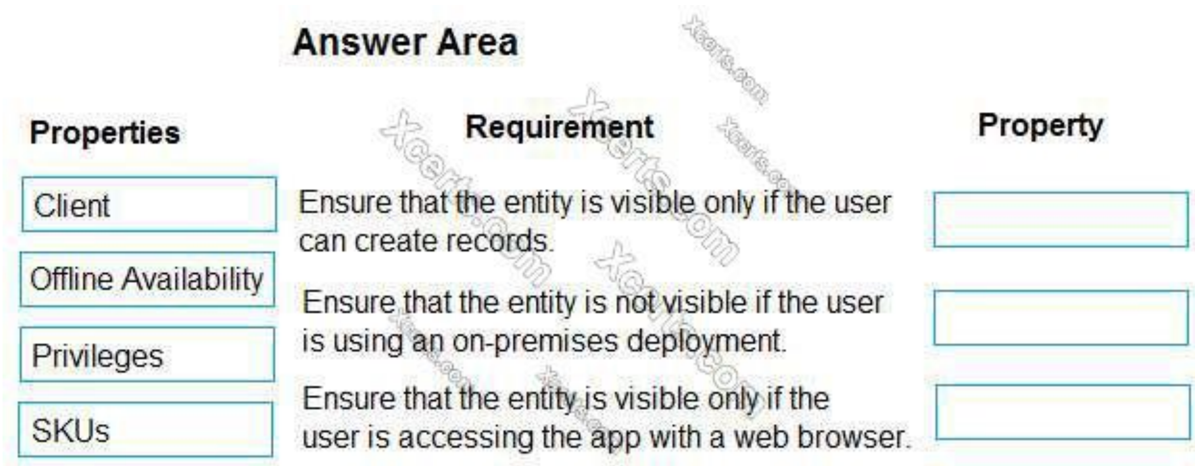
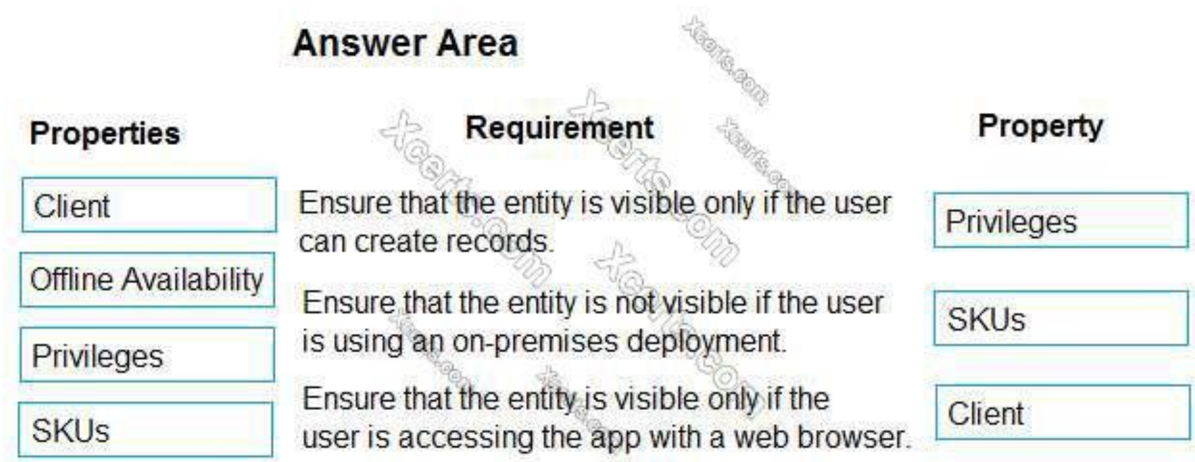


Exhibit B:



A. Please refer to Exhibit B for the answer.

Answer(s): A

Explanation:
Box 1: Privileges
Privileges: This defines whether a subarea is displayed based on privileges available in any security roles that are assigned to the user.

Box 2: SKU
SKUs: Select the versions of Dynamics 365 that display this subarea.

Box 3: Client
Client: Select the type of client that displays this subarea.

Incorrect Answers:
Offline Availability: Select this check box to make this subarea available to users when they are offline in Dynamics 365 for Outlook.

Reference:
https://docs.microsoft.com/en-us/powerapps/maker/model-driven-apps/create-site-map-app

QUESTION: 5
HOTSPOT
You are troubleshooting Power Apps solutions.
You need to determine the cause for the identified issues.

What is the root cause for each issue? To answer, select the appropriate options in the answer area.
NOTE: Each correct selection is worth one point.
Hot Area:

Exhibit A:

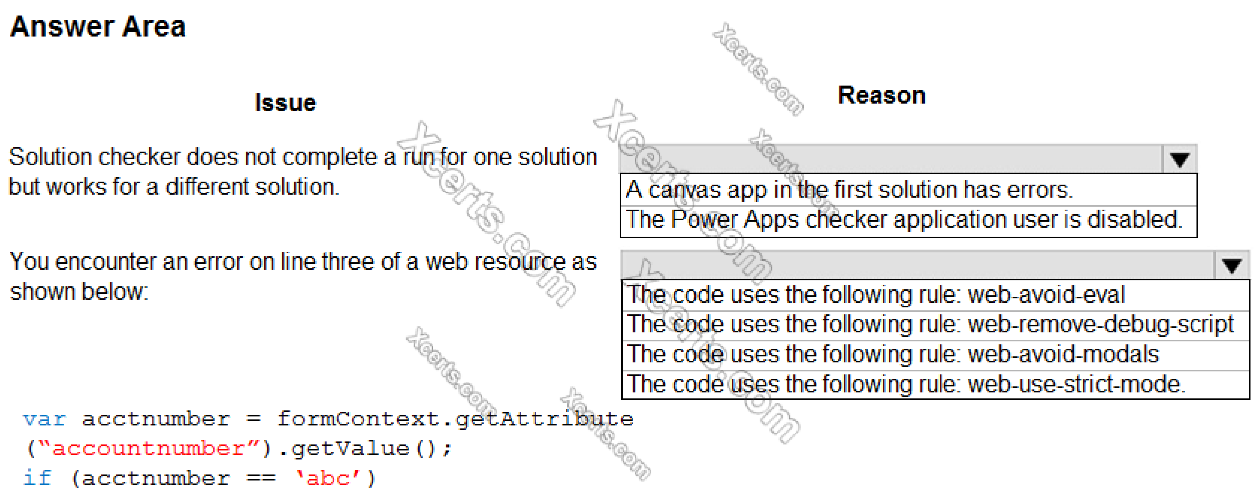
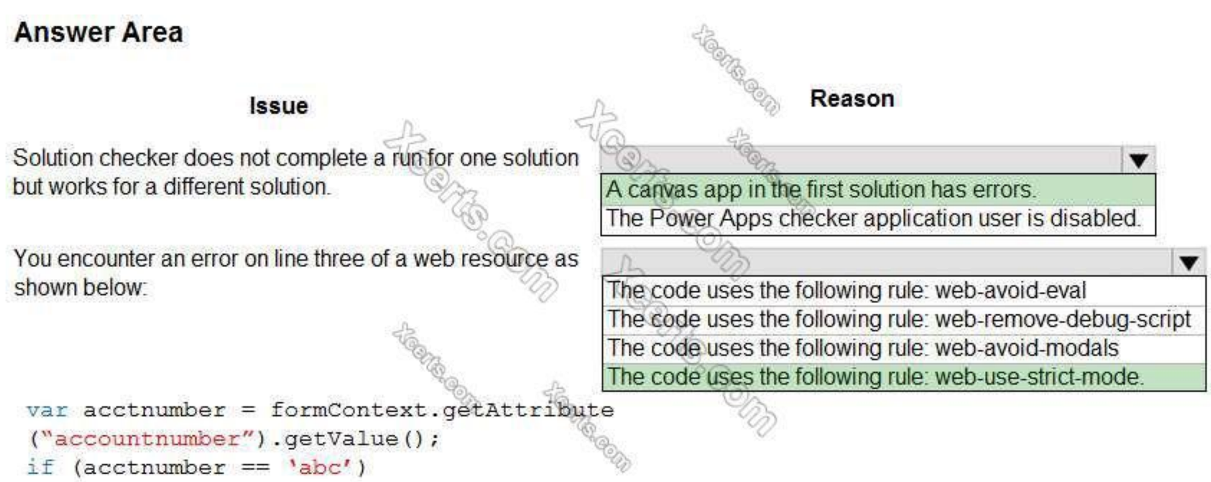


Exhibit B:

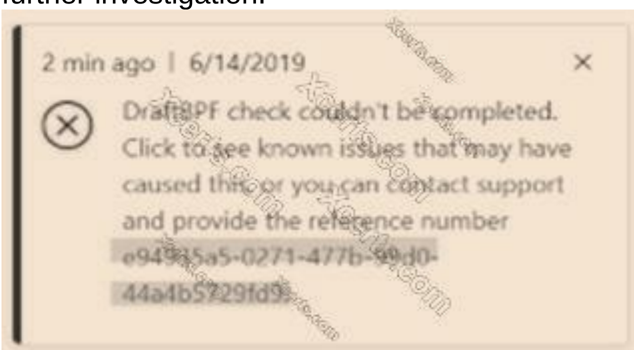


A. Please refer to Exhibit B for the answer.

Answer(s): A

Explanation:
Box 1: A canvas app in the first solution has errors.
Failures that occur during background processing of the analysis will fail with 'Couldn't be completed' status and return an error message in the Power Apps portal as well as send email notification to the requestor.

Selecting the portal notification will link to this page of common issues for further troubleshooting. If one of the provided common issues does not resolve the problem, a reference number is also returned. Provide this reference number to Microsoft Support for further investigation.



Box 2: The code uses the following rule: web-use-strict-mode
web-use-strict-mode is able to throw a SyntaxError before the script is executing.

Example:
The reason is JavaScript lets you compare different variable types but this can have unexpected results, so by using the strict === it compares the same type and won't have unexpected results

This gets a warning
entity.field == "Line1"

Incorrect Answers:
web-avoid-eval: The eval() function evaluates JavaScript code represented as a string. web-avoid-modals: Avoid using modal dialogs.
web-remove-debug-script: Avoid including debug script in non-development environments.

Reference:
https://docs.microsoft.com/en-us/powerapps/maker/common-data-service/common-issues-resolutions-solution-checker

QUESTION: 6
You create a Power Apps app that integrates with Dynamics 365 Customer Service.

You update the app and run solution checker on the original solution. You receive an error stating solution checker cannot export the solution.

You need to determine the primary cause for the issue. What is the primary cause?

A. The original solution is locked because there is a dependent patch.
B. The solution was not exported before running solution checker.
C. The environment is an Administrator mode.
D. Solution checker cannot check default solutions.

Answer(s): A

Explanation:
Solution checker fails to export patched solutions.
If a solution has had a patch applied, Solution Checker will fail to export the solution for analysis. When a solution has had a patch applied, the original solution becomes locked and it can't be changed or exported as long as there are dependent patches that exist in the organization that identify the solution as the parent solution.

To resolve this issue, clone the solution so that all patches related to the solution are rolled into the newly created solution. This unlocks the solution and allows the solution to be exported from the system.

Reference:
https://docs.microsoft.com/en-us/powerapps/maker/common-data-service/common-issues-resolutions-solution-checker#solution-checker-fails-to-export-solutions-with-model-driven-app-components

QUESTION: 7
HOTSPOT
You are creating a model-driven app to track the time that employees spend on individual projects. You need to configure the app according to the company's requirements.

Which components should you configure? To answer, select the appropriate options in the answer area.
NOTE: Each correct selection is worth one point.
Hot Area:

Exhibit A:

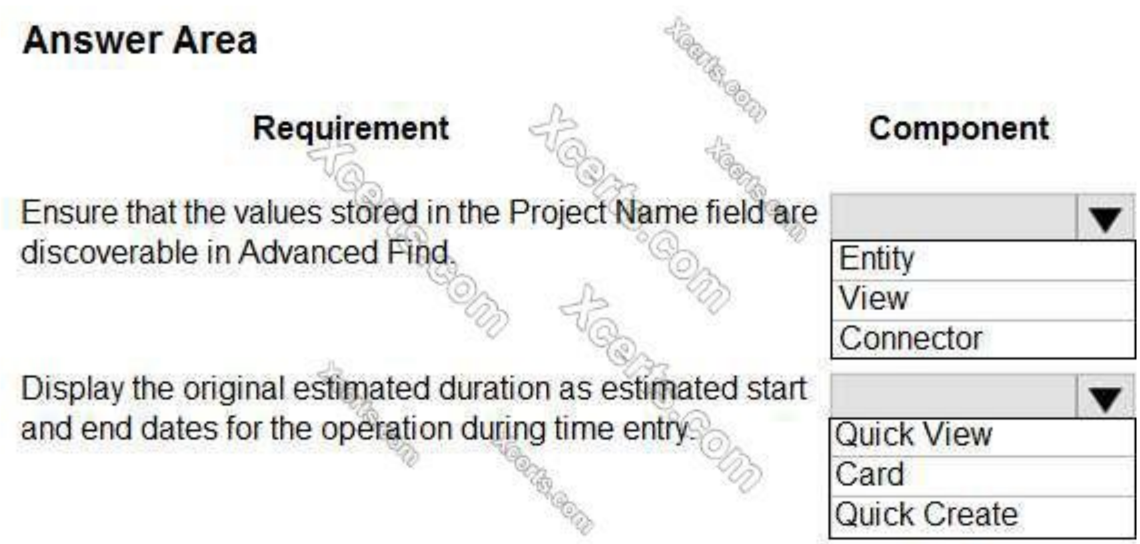
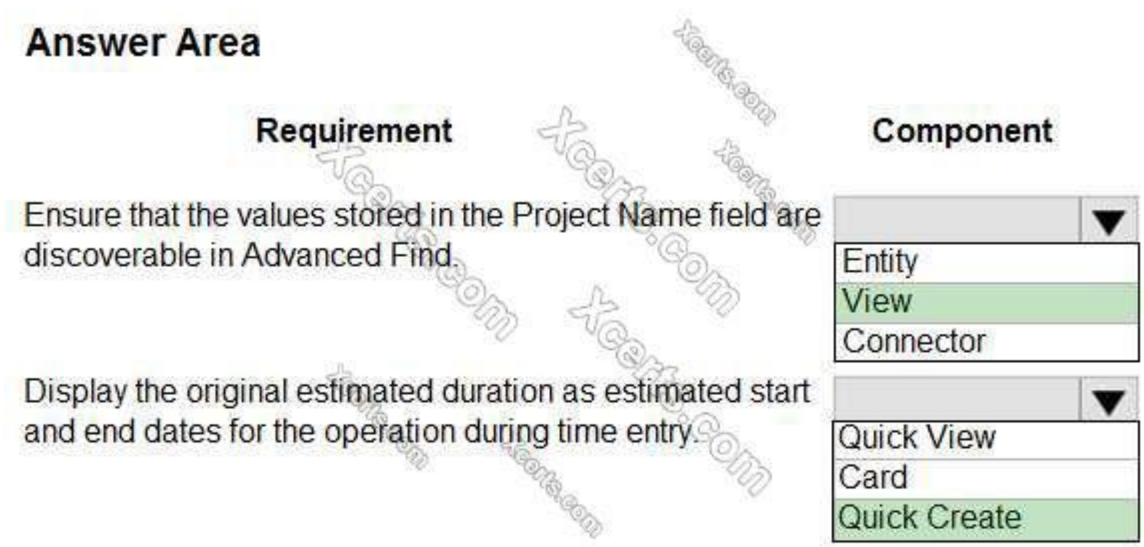


Exhibit B:



A. Please refer to Exhibit B for the answer.

Answer(s): A

Explanation:
Box 1: View

Box 2: Quick Create
With quick create forms, your app can have a streamlined data entry experience with full support for logic defined by form scripts and business rules.

By default only these system tables have quick create forms: account, campaign response, 1case, competitor, contact, lead, opportunity.

Incorrect Answers:
Quick View
A quick view form can be added to another form as a quick view control. It provides a template to view information about a related table row within a form for another table row. This means your app users do not need to navigate to a different row to see the information needed to do their work.

Reference:
https://docs.microsoft.com/en-us/powerapps/developer/model-driven-apps/customize-entity-views https://docs.microsoft.com/en-us/powerapps/maker/model-driven-apps/create-edit-quick-create-forms

QUESTION: 8
You fix a bug in the code of your application, which is currently on version 10.0.2.1. You need to publish an updated version of the solution.
Which version identifier should you use?

A. 10.0.3.1
B. 10.0.2.2
C. 10.1.0.2
D. 11.0.0

Answer(s): A

Explanation:
The version number are <major>.<minor>.<build>.<revision>.

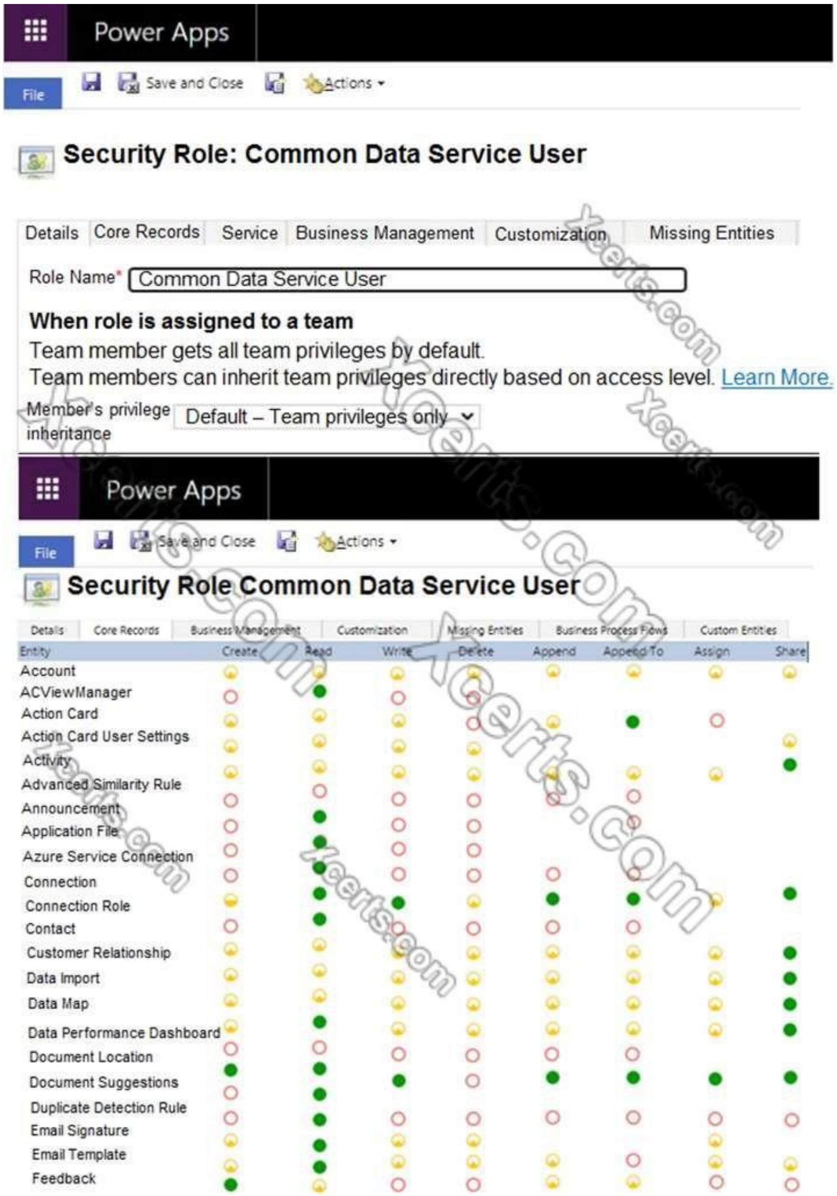
When we create patches in Dynamics 365, the system will automatically increment the build version (you can overwrite the chosen number when you create the patch). For example, if our solution starts at 1.0.0.0, we export it to become 1.0.0.1. We then create a patch, and the version of the patch is 1.0.1.1. If we export it now, it might become 1.0.1.2. In all cases, the build or version number has been incremented. Patches require the build or version number to increment, but not the major or minor version.

Reference:
https://carldesouza.com/how-solution-version-numbers-work-in-the-microsoft-power-platform/

QUESTION: 9
HOTSPOT
Fabrikam, Inc, has two divisions as shown in the Business Unit exhibit. (Click the Business Unit tab.)

- Fabrikam Residences rents units short term to clients.
- Fabrikam Property Management deals with the maintenance of the units and manages the contractors who perform the maintenance.
- Clients and contractors are both stored in the Contact entity.

The manager of the Property Management business unit is a member of a Fabrikam business unit, which has the root security role as shown in the Security Role exhibit. (Click the Security Role tab.)



The manager cannot see the contact record shown in the Contact exhibit. (Click the Contact tab.)

You need to ensure that the manager can view contact records owned by someone in the Residences business unit.

For each of the following statements, select Yes if the statement achieves the goal. Otherwise, select No.

Hot Area:

Exhibit A:

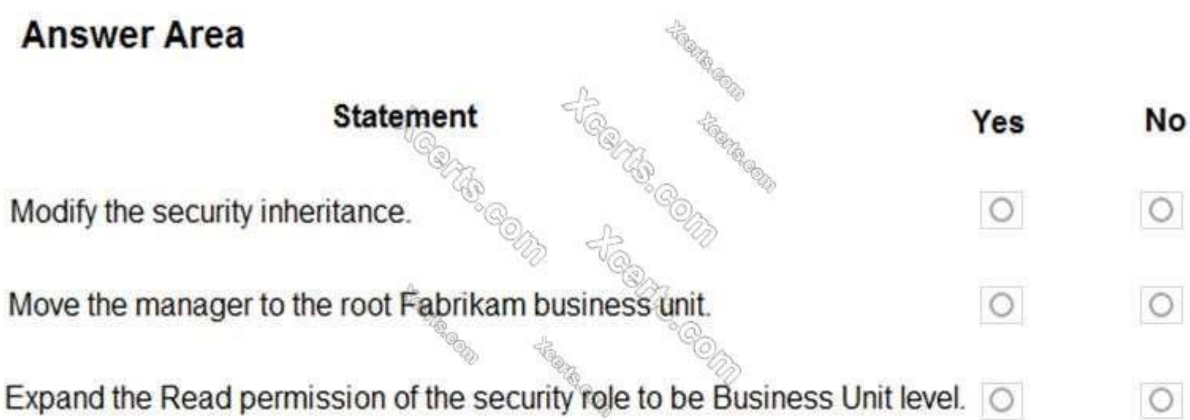


Exhibit B:

Answer Area

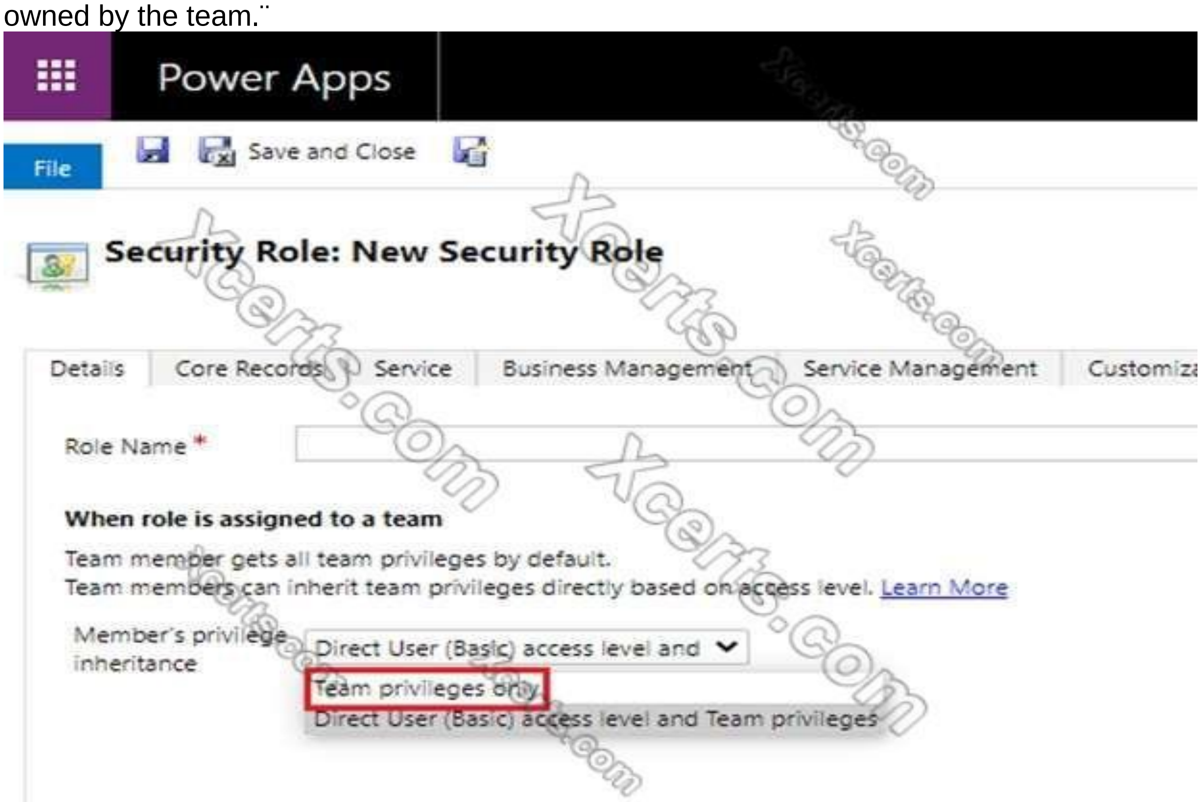
Statement	Yes	No
Modify the security inheritance.	●	○
Move the manager to the root Fabrikam business unit.	○	●
Expand the Read permission of the security role to be Business Unit level.	●	○

A. Please refer to Exhibit B for the answer.

Answer(s): A

Explanation:
Box 1: Yes
Change it to Direct User/Basic access level and Team privileges. This creates a security role with team member's privilege inheritance.

Note: For roles assigned to teams with Basic-level access user privilege, the role's inheritance configuration also comes into play. If the team has the Member's privilege inheritance set to Team privileges only, then the user will only be able make use of that privilege for records owned by the team.¨



Box 2: No
The manager of the Property Management business unit is already a member of a Fabrikam business unit, which has the root security role
Box 3: Yes

Reference:
https://docs.microsoft.com/en-us/power-platform/admin/security-roles-privileges

QUESTION: 10
HOTSPOT
A company has a development environment and a production environment. The production environment has several third-party managed and unmanaged solutions that made changes to the Contact main form.

You create a new solution in the development environment. You add the Contact entity and the Contact main form to the solution. You create a custom field on the Contact entity.

What happens when you perform these actions and import the solution into the production environment? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.
Hot Area:

Exhibit A:

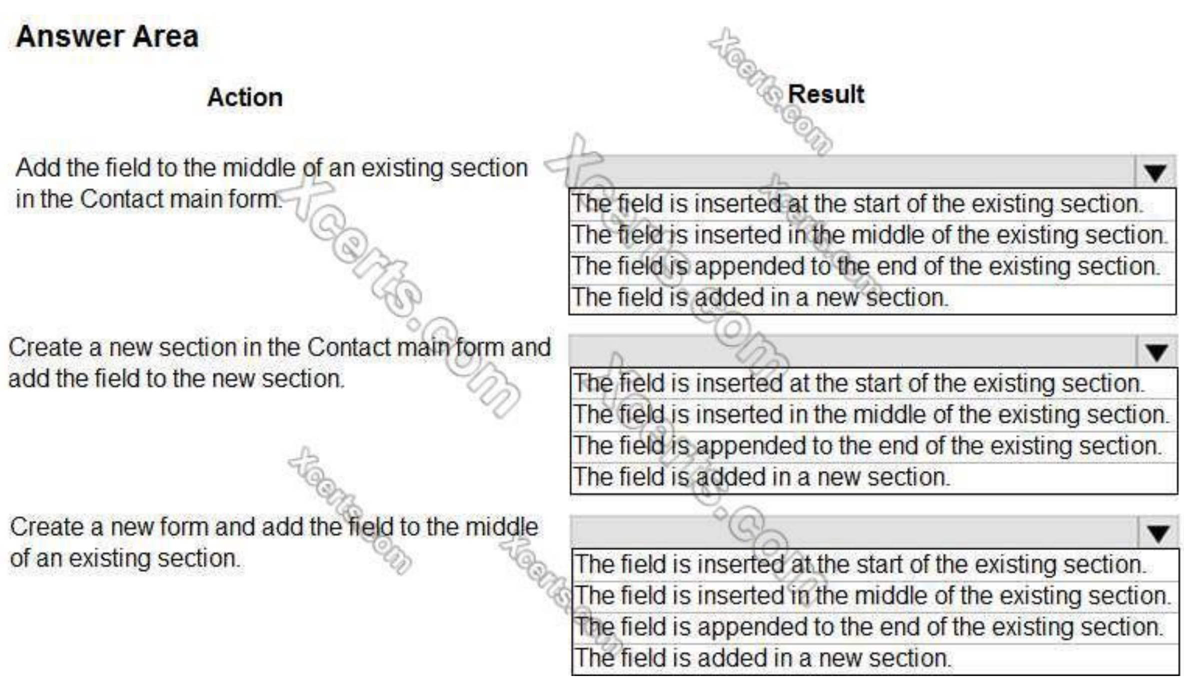
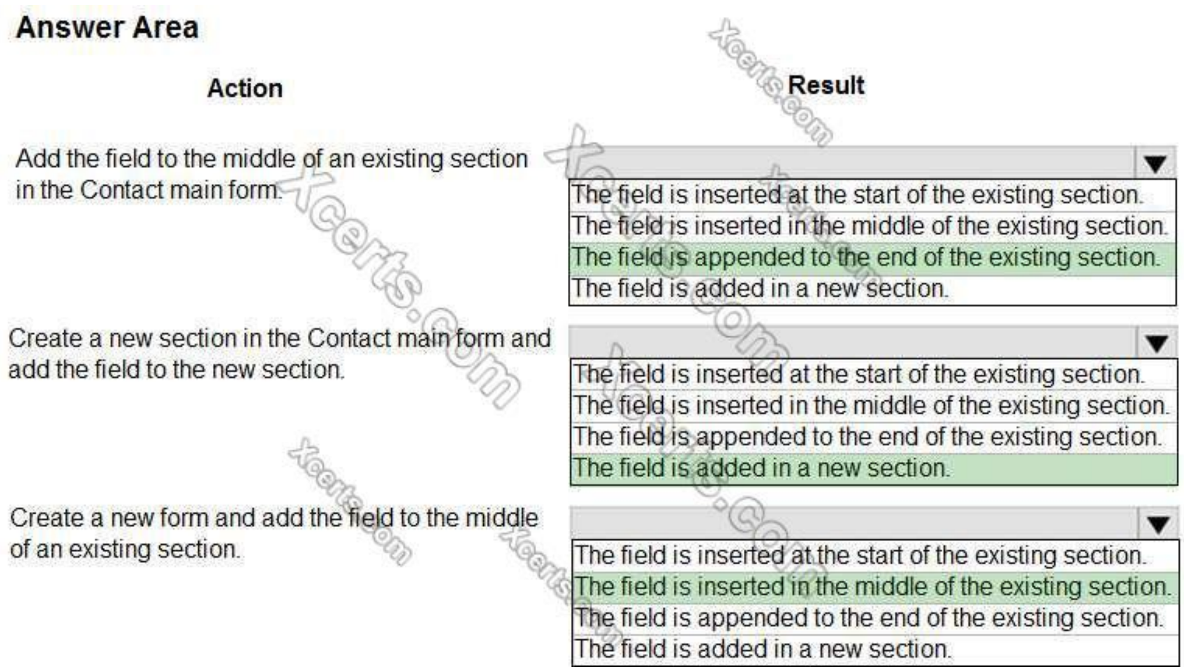


Exhibit B:



A. Please refer to Exhibit B for the answer.

Answer(s): A

Explanation:
Box 1: The field is appended to the end of the existing section.
When you add new elements to a form that is to be merged, we recommend that you include your new elements within new container elements (tabs or sections). Additions to any container will be appended to the end of the container. For example, fields added to a section will be positioned at the end of the section.

Box 2: The field is added in a new section.
Box 3: The field is inserted in the middle of the existing section

Reference:
https://docs.microsoft.com/en-us/previous-versions/dynamicscrm-2016/developers-guide/gg309329(v=crm.8)

QUESTION: 11
An organization uses Dynamics 365 Sales. The organization has accounting and customer service departments.

You must restrict users in customer service from being able to change the value of the balance field on the Contact records. The accounting team must be the only team able to edit this field.

You need to create the appropriate solution without any customizations. What should you do first?

A. Enable field security for the balance field and grant the customer service team read and update permissions.
B. Create a customer service form and role and make the balance field read-only.
C. Enable field security for the balance field and grant the accounting team read permissions.
D. Enable field security for the balance field and grant the customer service team read permissions.

Answer(s): B

Explanation:
Improve user's productivity with the new forms in the Customer Service Hub. The form type of the new forms is Main.

The Main forms come with an improved user experience optimized for agent productivity, helping to maintain context while working on related records. Main forms provide the primary interface where the agents can view and interact with their data in Microsoft Dynamics 365 Customer Service.

Reference:
https://docs.microsoft.com/en-us/dynamics365/customer-service/create-design-forms-customer-service-hub

QUESTION: 12
HOTSPOT
You are developing a model-driven app for the purchasing department of an organization. You provision a new test environment and a security role. You select users to test the apps and assign the users to a security group named TestSG.

If the tests succeed, a manager will perform additional testing in the production environment and then publish the app for the organization’s purchasing department.

You need to ensure that the test and production environments are configured correctly.

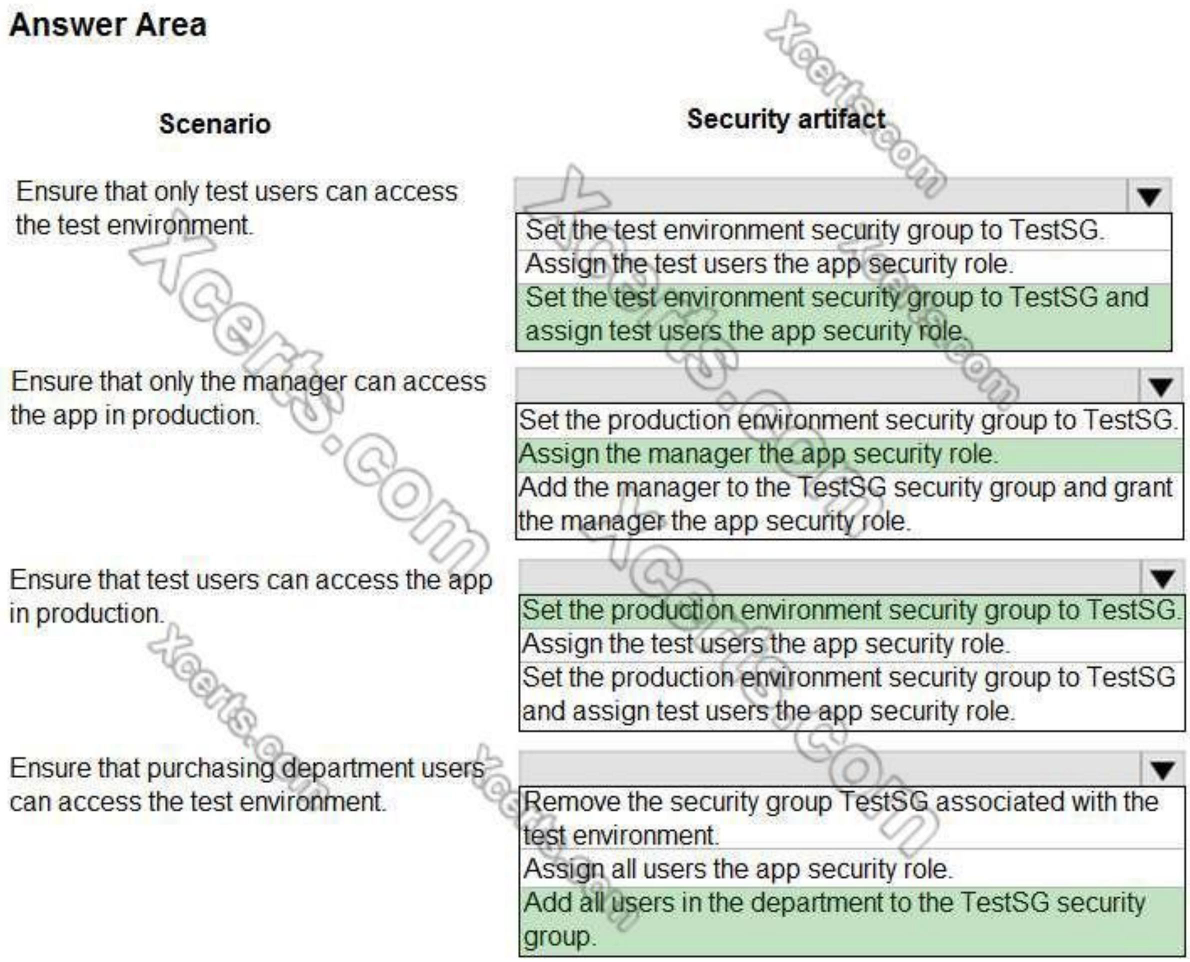
What should you do? To answer, select the appropriate options in the answer area.
NOTE: Each correct selection is worth one point.
Hot Area:

Exhibit A:

Answer Area

Scenario	Security artifact
Ensure that only test users can access the test environment.	Set the test environment security group to TestSG. Assign the test users the app security role. Set the test environment security group to TestSG and assign test users the app security role.
Ensure that only the manager can access the app in production.	Set the production environment security group to TestSG. Assign the manager the app security role. Add the manager to the TestSG security group and grant the manager the app security role.
Ensure that test users can access the app in production.	Set the production environment security group to TestSG. Assign the test users the app security role. Set the production environment security group to TestSG and assign test users the app security role.
Ensure that purchasing department users can access the test environment.	Remove the security group TestSG associated with the test environment. Assign all users the app security role. Add all users in the department to the TestSG security group.

Exhibit B:



A. Please refer to Exhibit B for the answer.

Answer(s): A

Explanation:
Box 1: Set the test environment security group to TestSG and assign test users the app security role. PowerApps apps use role-based security for sharing. The fundamental concept in role-based security is that a security role contains privileges that define a set of actions that can be performed within the app. All app users must be assigned to one or more predefined or custom roles.

Box 2: Assign the manager the app security role.
Box 3: Set the production environment security group to TestSG Box 4: Add all users in the department to the TestSG security group.

Reference:
https://docs.microsoft.com/en-us/powerapps/maker/model-driven-apps/share-model-driven-app

QUESTION: 13

A travel company plans to track the address of places their clients visit in an entity named Destination. Client information is captured as contact records. Client records include links to the places that clients visit.

The company must be able to link multiple rating records to the new address record.
You find a custom Rating entity that is incomplete.

You need to expand the Rating entity to include contact, address, and rating information in one place. Which three actions should you perform? Each correct answer presents part of the solution.
NOTE: Each correct selection is worth one point.

A. Create a 1:N relationship between the Contact system entity and the Address system entity named Destination.
B. Create a mapping for the Contact – Rating relationship.
C. Create a 1:N relationship between the Address system entity and the Rating entity.
D. Create a 1:N relationship between the Contact system entity and the Rating entity.
E. Create a mapping for the Destination – Rating relationship.
F. Create a 1:N relationship between the Destination entity and the Rating entity.

Answer(s): A, C, E
Reference:
https://docs.microsoft.com/en-us/powerapps/maker/common-data-service/map-entity-fields

QUESTION: 14
HOTSPOT
A company uses Dynamics 365 Sales and the Microsoft Online Services portal. The multi-select OptionSet field data type is not supported in the portal.
You need to copy the selected field value to the text field.

How should you configure the Organization service request? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.
Hot Area:

Exhibit A:

Answer Area

```
Entity entity = (Entity)context.InputParameters["Target"];
var attributeRequest = new RetrieveAttributeRequest
{
     EntityLogicalName = "entityname",
     LogicalName = "fieldname",

               RetrieveAsIfPublished = [▼]
          };


          var attributeResponse = (RetrieveAttributeResponse)
 service.Execute(attributeRequest);
          var attributeMetadata =
 (EnumAttributeMetadata)attributeResponse. [▼]
```

- true
- false

- AttributeMetadata
- AttributeResponse
- OptionMetadataCollection
- MultiSelectPicklistAttributeMetadata

Exhibit B:

Answer Area

```
Entity entity = (Entity)context.InputParameters["Target"];
var attributeRequest = new RetrieveAttributeRequest
{
     EntityLogicalName = "entityname",
     LogicalName = "fieldname",

               RetrieveAsIfPublished = [▼]
          };


          var attributeResponse = (RetrieveAttributeResponse)
 service.Execute(attributeRequest);
          var attributeMetadata =
 (EnumAttributeMetadata)attributeResponse. [▼]
```

- true
- false

- AttributeMetadata
- AttributeResponse
- OptionMetadataCollection
- MultiSelectPicklistAttributeMetadata

A. Please refer to Exhibit B for the answer.

Answer(s): A

Explanation:
Box 1: Yes
If you are creating an attribute editor you will need to retrieve entity data that has been saved but not published.

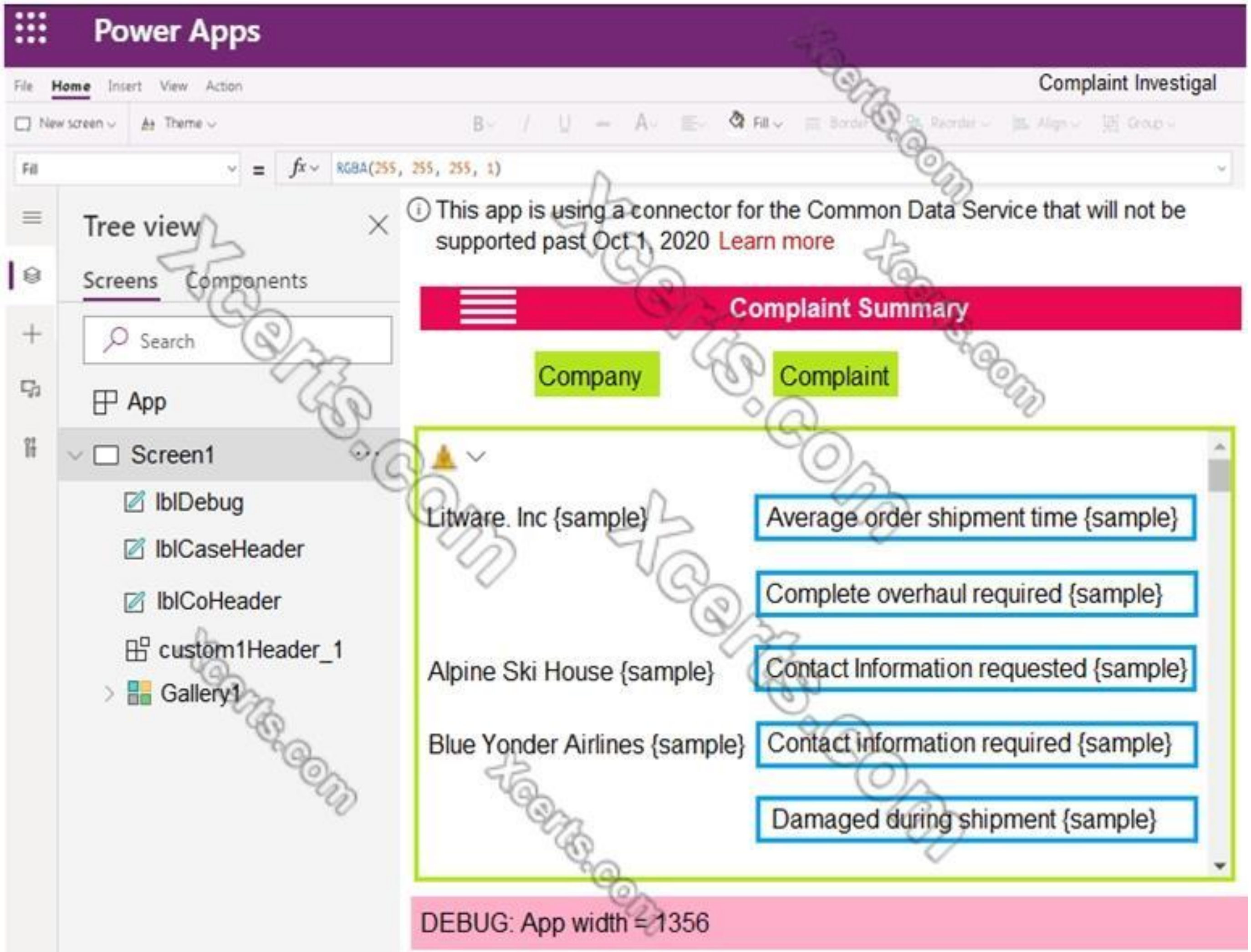
For other scenarios you will want to only retrieve published metadata.

- Set this value to true to include unpublished changes, as it would look if you called publish.
- Set this value to false to include only the currently published changes, ignoring the changes that haven't yet been published.

Box 2: AttributeMetadata
AttributeMetadata class is returned in the RetrieveAttributeResponse.

Reference:
https://docs.microsoft.com/en-us/dotnet/api/microsoft.xrm.sdk.messages.retrieveattributerequest.retrieveasifpublished?view=dynamics-general-ce-9
https://docs.microsoft.com/en-us/dotnet/api/microsoft.xrm.sdk.metadata.attributemetadata?view=dynamics-general-ce-9

QUESTION: 15
HOTSPOT
You open a canvas app in edit mode. A warning message displays as shown in the graphic.



Use the drop-down menus to select the answer choice that answers each question based on the information presented in the graphic.

NOTE: Each correct selection is worth one point.
Hot Area:

Exhibit A:

Answer Area

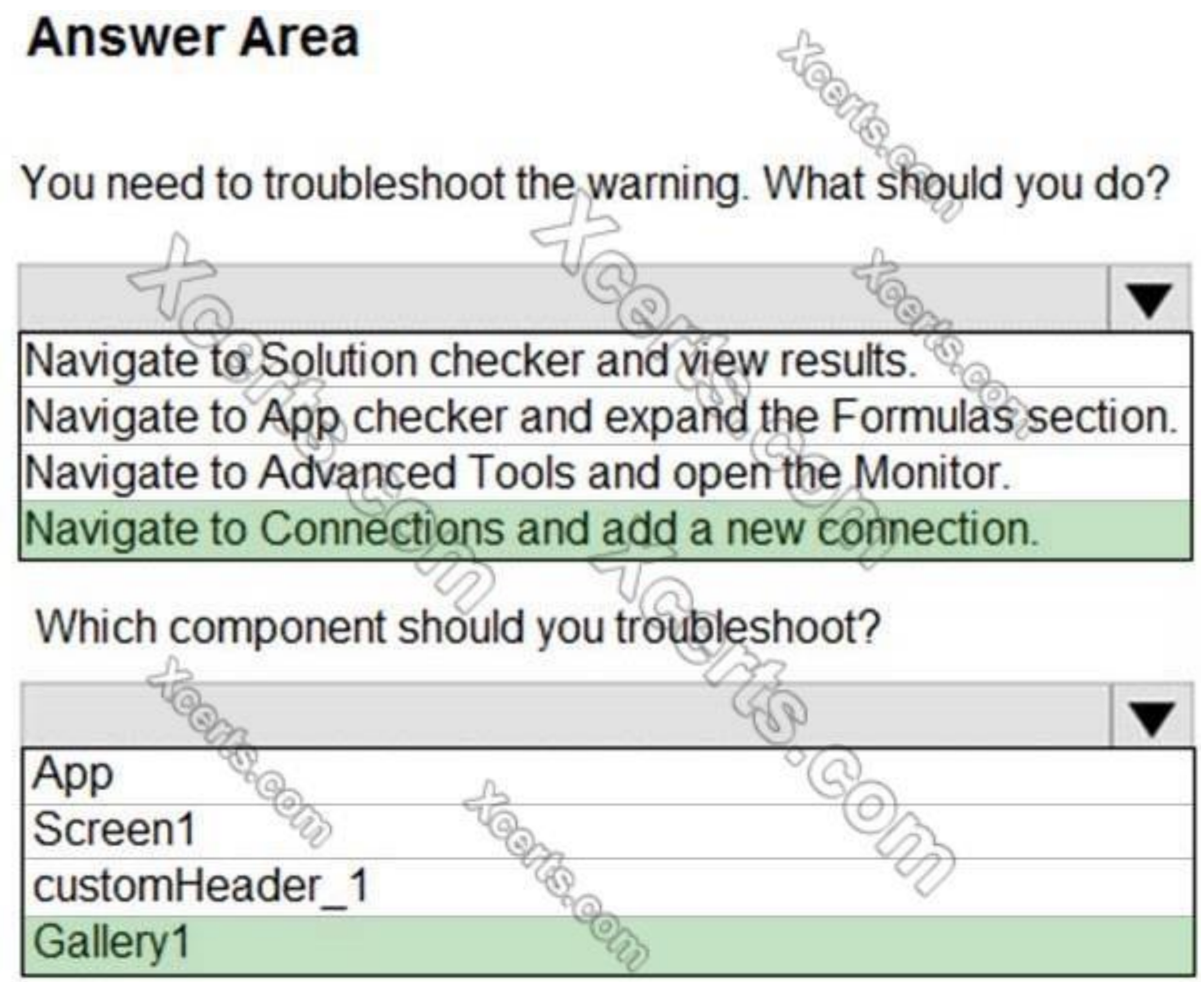
You need to troubleshoot the warning. What should you do?

Navigate to Solution checker and view results.
Navigate to App checker and expand the Formulas section.
Navigate to Advanced Tools and open the Monitor.
Navigate to Connections and add a new connection.

Which component should you troubleshoot?

App
Screen1
customHeader_1
Gallery1

Exhibit B:



A. Please refer to Exhibit B for the answer.

Answer(s): A

Explanation:
Box 1: Navigate to Connections and add a new connection
Error message: This app is using a connector for the Common Data Service will not be supported past Oct 1, 2020.

To convert your app that uses the Common Data Service 365 connector, you'll need to remove and add the connections to your data sources.
Box 2: Gallery1

Reference:
https://docs.microsoft.com/en-us/powerapps/maker/canvas-apps/use-native-cds-connector

QUESTION: 16
A company implements Dynamics 365 Supply Chain Management.

The company wants a button to display in the command bar when viewing accounts. You need to add the button using the Ribbon Workbench.

In which three areas can you add a button for the Account entity? Each correct answer presents a complete solution.

NOTE: Each correct selection is worth one point.

A. In the home area for Accounts.
B. In the main body of a form.
C. On the main application window.
D. On the associated view of the account.
E. On the Account form.

Answer(s): A, D, E

Explanation:
The Ribbon Workbench requires a solution to load that contains the entities that you wish to work on.

Reference:
https://community.dynamics.com/crm/f/microsoft-dynamics-crm-forum/371643/add-a-button-on-account-list-view-in-dynamics-crm

QUESTION: 17
An organization uses Dynamics 365 Sales. You plan to add a custom button to the app ribbon.

You need to ensure that the button displays only when conditions specified by business rules are met. Which two code segments can you use? Each correct answer presents a complete solution.
NOTE: Each correct selection is worth one point.

A. gridContext.refresh();
B. formContext.ui.refreshRibbon(refreshAll);
C. formContext.data.refresh(save).then(successCallback, errorCallback);
D. formContext.ui.refreshRibbon();
E. formContext.getControl(arg).refresh();

Answer(s): B, D

Explanation:
B: formContext.ui.refreshRibbon(refreshAll);
Causes the ribbon to re-evaluate data that controls what is displayed in it.

Indicates whether all the ribbon command bars on the current page are refreshed. If you specify false, only the page-level ribbon command bar is refreshed. If you do not specify this parameter, by default false is passed.

Remarks: This function is typicaly used when a ribbon (RibbonDiffXml) depends on a value in the form. After your code changes a value that is used by a rule, use this method to force the ribbon to re-evaluate the data in the form so that the rule can be applied.

D: If role is there - just refresh the ribbon to see the button

```
if (isButtonEnabled) {
formContext.ui.refreshRibbon();
}
},
```

Reference:
https://docs.microsoft.com/en-us/powerapps/developer/model-driven-apps/clientapi/reference/formcontext-ui/refreshribbon
https://community.dynamics.com/crm/f/microsoft-dynamics-crm-forum/302049/show-hide-button-bases-on-different-criteria/871674

QUESTION: 18
HOTSPOT
A fine arts school uses a custom canvas application based on the Common Data Service (CDS) platform. Artists experience errors on their Artist canvas app and delays when switching pages. You need to identify the root causes of these issues.

Which troubleshooting methods should you use? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.
Hot Area:

Exhibit A:

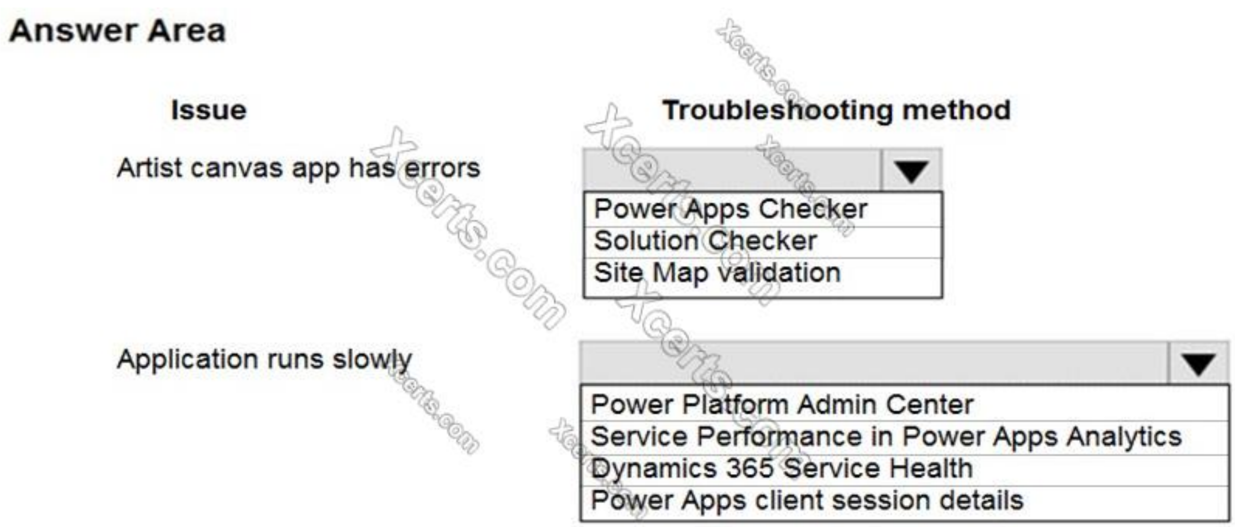
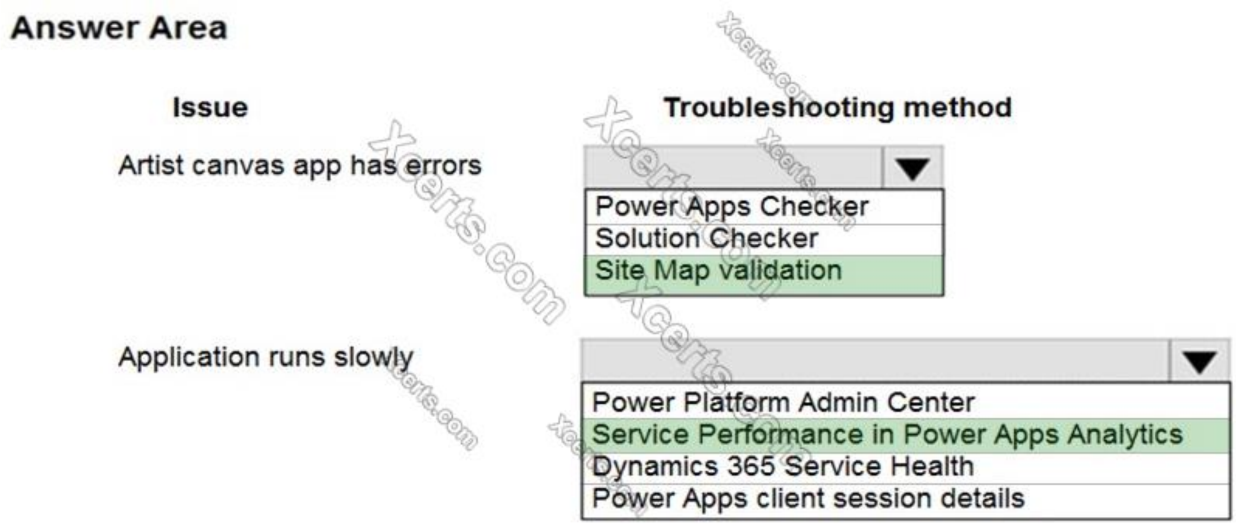


Exhibit B:



A. Please refer to Exhibit B for the answer.

Answer(s): A

Explanation:
Box 1: Site Map validation
When you validate the app, the app designer canvas shows you details about the assets that are missing.

In the app designer, select Validate.
A notification bar appears and shows you whether the app has any errors or warnings. The notification bar shows warnings in cases where, for example, an entity has no forms or views, or the app doesn't contain any components. An error might appear if a site map isn't configured for the app.

Incorrect Answers:
With Solution checker, you can inspect your code against a set of best practice development rules specific to customizing and extending the CDS for Apps platform. Get access to rich detailed reports listing issues identified, severity, locations, and sometimes the line code, with linkage to detailed prescriptive guidance on how to fix the problem.

PowerApp Checker checks your solution for any usage of code that was deprecated or any performance or security issues in the code. It checks the plugin code as well as web resources.

Box 2: Service Performance in Power Apps Analytic
Regarding Microsoft Power Apps Canvas Driven Apps: for reviewing performance bottlenecks and API calls, admins can leverage the Service Performance report for connection health.

Admins can gain insights into the least and best performing services, the mean response time and success rate for connectors and the 50th, 75th and 95th percentile markers for response time. Each of these can be filtered down by service or connector, device, player version and regionally.

Reference:
https://docs.microsoft.com/en-us/dynamics365/customerengagement/on-premises/customize/validate-app
https://community.dynamics.com/crm/b/crminthefield/posts/monitoring-the-power-platform-canvas-driven-apps---power-apps-analytics

QUESTION: 19
A create a model-driven app. You run Solution checker. The tool displays the following error: Solution checker fails to export solutions with model-driven app components. You need to resolve the issue.
What should you do?

A. Manually export the solution before running Solution checker
B. Assign the Environment Maker security role to the Power Apps Checker application user
C. Assign the System Administrator security role to your user ID
D. Disable the Power Apps Checker application user
E. Assign the Environment Maker security role to your user ID

Answer(s): B

Explanation:
To resolve this issue, grant the Environment Maker security role to the Power Apps Checker application user.

Note: Solution checker fails to export solutions with model-driven app components
If a solution contains a model-driven app, Solution Checker might fail to export the solution for analysis. This error is caused by role-based security for sharing of apps. If the Power Apps Checker application user does not have appropriate access to model-driven apps, any solutions containing them will fail to export with solution checker.

Reference:
https://docs.microsoft.com/en-us/powerapps/maker/data-platform/common-issues-resolutions-solution-checker#solution-checker-fails-to-export-solutions-with-model-driven-app-components

Exam Topic: Configure business process automation

Testlet 1

Case study
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Background

Current environment
Adventure Works Cycles wants to replace their paper-based bicycle manufacturing business with an efficient paperless solution. The company has one manufacturing plant in Seattle that produces bicycle parts, assembles bicycles, and distributes finished bicycles to the Pacific Northwest.

Adventure Works Cycles has a retail location that performs bicycle repair and warranty repair work. The company has six maintenance vans that repair bicycles at various events and residences.

Adventure Works Cycles recently deployed Dynamics 365 Finance and Dynamics 365 Manufacturing in a Microsoft-hosted environment for financials and manufacturing. The company plans to leverage the Microsoft Power Platform to migrate all of their distribution and retail workloads to Dynamics 365 Unified Operations.

The customer uses Dynamics 365 Sales. Dynamics 365 Customer Service and Dynamics 365 Field Service.

Retail store information
Adventure Works Cycle has one legal entity, four warehouses, and six field service technicians. Warehouse counting is performed manually by using a counting journal. All warehouse boxes and items are barcoded.

- Adventure Works Cycle has one legal entity, four warehouses, and six field service technicians.
- Warehouse counting is performed manually by using a counting journal. All warehouse boxes and items are barcoded.
- The Adventure Works Cycles retail location performs bicycle inspections and performance tune-ups.
- Technicians use paper forms to document the bicycle inspection performed before a tune-up and any additional work performed on the bicycle.
- Adventure Works Cycles uses a Power Apps app for local bike fairs to attract new customers.
- A canvas app is being developed to capture customer information when customers check in at the retail location. The app has the following features:
    - Customer selects yes or no if they are on the mailing list.
    - Customer selects the amount of times they have visited the store.
    - Customer selects the type of service needed.
    - The search result returns all last name records that match the search term.

Technology

Requirements
- A plug-in for Dynamics 365 Sales automatically calculated the total billed time from all activities on a particular customer account, including sales representative visits, phone calls, email correspondence, and repair time compared with hours spent.
- A shipping API displays shipping rates and tracking information on sales orders. The contract allows for 3,000 calls per month.
- Ecommerce orders are processed in batch daily by using a manual import of sales orders in Dynamics 365 Finance.
- Microsoft Teams is used for all collaboration.
- All testing and problem diagnostics are performed in a copy of the production environment.
- Customer satisfaction surveys are recorded with Microsoft Forms Pro. Survey replies from customers are sent to a generic mailbox.

Automation
- A text message must be automatically sent to a customer to confirm an appointment and to notify when a technician is on route that includes their location.
- Ecommerce sales orders must be integrated into Dynamics 365 Finance and then exported to Azure every night.
- A text alert must be sent to employees scheduled to assist in the repair area of the retail store if the number of repair check-ins exceeds eight.
- Submitted customer surveys must generate an email to the correct department. Approval and follow-up must occur within a week.

Reporting
- The warehouse manager’s dashboard must contain warehouse counting variance information.
- A warehouse manager needs to quickly view warehouse KPIs by using a mobile device.
- Power BI must be used for reporting across the organization.

User experience

- Warehouse counting must be performed by using a mobile app that scans barcodes on boxes.
- All customer repairs must be tracked in the system no matter where they occur.
- Qualified leads must be collected from local bike fairs.

Issues

- Warehouse counting must be performed by using a mobile app that scans barcodes on boxes.
- All customer repairs must be tracked in the system no matter where they occur.
- Qualified leads must be collected from local bike fairs.

Internal

- User1 reports receives an intermittent plug-in error when viewing the total bill customer time.
- User2 reports that Azure consumption for API calls has increased significantly to 100 calls per minute in the last month.
- User2 reports that sales orders have increased.
- User5 receives the error message: ‘Endpoint unavailable’ during a test of the technician dispatch ISV solution.
- The parts department manager who is the approver for the department is currently on sabbatical.

External

- CustomerB reports that the check-in app returned only one search result for their last name, which is not the correct name.
- Nine customers arrive in the repair area of the retail store, but no texts were sent to scheduled employees.
- Customers report that the response time from the information email listed on the Adventure Works Cycles website is greater than five days.
- CustomerC requested additional information from the parts department through the customer survey and has not received a response one week later.
-

QUESTION: 1
You need to modify the Power Automate flow to resolve CustomerC’s issue. What should you do?

A. Add a configure run that is set to is successful.
B. Add a data operation that specifies the false conditions.
C. Add a condition containing approval hierarchy.
D. Add a timeout setting to the approval flow.

Answer(s): C

Explanation:
Scenario: CustomerC requested additional information from the parts department through the customer survey and has not received a response one week later.

Reference:

https://docs.microsoft.com/en-us/power-automate/sequential-modern-approvals

QUESTION: 2
DRAG DROP
You need to recommend solutions to meet the e-commerce automation requirements.

Which platform tools should you recommend? To answer, drag the appropriate tools to the correct requirements. Each tool may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.

NOTE: Each correct selection is worth one point.
Select and Place:

Exhibit A:

Exhibit B:

A. Please refer to Exhibit B for the answer.

Answer(s): A

Explanation:
Box 1: Logic Apps
Scenario: Ecommerce sales orders must be integrated into Dynamics 365 Finance and then exported to Azure every night.

For integration with Dynamics 365 Logic Apps can be used. It also supports scheduled actions.
For integration with Azure use Logic Apps, instead of Power Automate.

Incorrect Answers:
Workflow does not support run on schedule.
Power Automate does not support Azure integration. (For integration with Dynamics 365 Power Automate can be used. It also supports scheduled actions.)

Box 2: Power Automate
Scenario: Submitted customer surveys must generate an email to the correct department.
Approval and follow- up must occur within a week.
Power Automate has approval flows.

Incorrect Answers:
Workflow does not support Approval workflows.

Reference:
https://docs.microsoft.com/en-us/microsoft-365/community/power-automate-vs-logic-apps
https://docs.microsoft.com/en-us/power-automate/replace-workflows-with-flows

Exam Topic: Configure business process automation

Testlet 2

Case study
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Background

Contoso Pharmaceuticals manufactures and sells drugs to retail and wholesale pharmacies, hospitals, and research facilities.

The company plans to implement Dynamics 365 Sales and Dynamics 365 Finance.

Current environment
- Contoso maintains a Microsoft Excel workbook that lists all drugs they supply.
- Pharmacies submit order requests through email.
- All information at customer locations is handwritten by customer representatives.
- Contoso uses Cerner, which is a medical industry application that uses a proprietary database.
- Some accounts are referrals from other pharmacies.
- Every pharmacy has its own Dynamics 365 Sales instance.

Requirements

General
Contoso wants to ensure that there is minimal custom code and custom connectors in the system.

Accounts

- Ensure that the names of the pharmacies are synced between the accounting and the customer management systems.
- Account numbers should be entered automatically into the pharmaceutical system that is in a Cerner database and kept in sync.
- When the account is entered into the system, extra fields must appear if the referral customer box is selected. If the box is not selected, the extra fields must not appear.
- A trigger must be created that changes the Priority field to 1 in the Account record 10 days after an Account record is created.
- A field named Priority_Trigger must be created to trigger the Priority field.
- A field named Facility type field must be added in order to select whether a customer is a retail pharmacy, wholesale pharmacy, research facility, or hospital.

Users

- UserA must be able to create and publish Power Apps apps.
- UserB must be the owner of all the systems and be able to provide permissions and create all new environments.
- UserC must be able to create apps connected to the systems and update the security roles and entities. Pharmacy representatives must only be able to run the apps and access their own records.
- Access to the accounting Power Apps app must be restricted to accounting team members.
- End users must have minimum access to the required systems.
- Only supervisors must be able to view phone numbers in the Accounts form.
- Developers must be able to create new apps for all users.
- Sales users must only have access to their own records.

Reporting

Pharmacy orders must be displayed in four graphs as follows:

- Annual revenue over $100,000
- Annual revenues under $100,000
- Research facilities
- Hospitals

The graphs must be interactive, and users must be able to drill down on any dimension.

Customizations

- Ensure that notifications are sent to the sales team when a lead is added by using Slack.
- Ensure that leads have a review stage added to the sales process.
- Doctors must be manually added to a custom entity named Doctor if the doctor is not listed.
- Refill dates for customer prescriptions should be automatically determined and a notification should be sent to the customer.
- Fields for the doctor’s name and phone number must be displayed in the customer record.
- The doctor entered on the customer’s record must be validated against doctors that exist in the system.
- The new solution will be sold to other pharmacies for use. The application must not allow changes to be made.

- The solution must be error free so that when it is installed in other environments it does not cause issues.
- A custom mobile app must be created to allow salespeople to add or search by pharmacy name.
- Pharmacy records must be uniquely identified by pharmacy name, address, contact name, and phone number.
- When a pharmacy is added by using the mobile app, the phone number must be validated to be all digits.
-

QUESTION: 1
DRAG DROP
You need to select a process to create each function.

Which process should you use? To answer, drag the appropriate processes to the correct functions. Each process may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.

NOTE: Each correct selection is worth one point.
Select and Place:

Exhibit A:

Answer Area

Processes	Function	Process
Power Automate	Create a Slack notification from a lead.	
Business rule	Change the priority field.	
Business process flow	Ensure appropriate information is added to leads	

Exhibit B:

Answer Area

Processes	Function	Process
Power Automate	Create a Slack notification from a lead.	Power Automate
Business rule	Change the priority field.	Business process flow
Business process flow	Ensure appropriate information is added to leads	Business rule

A. Please refer to Exhibit B for the answer.

Answer(s): A

Explanation:
Box 1: Power Automate
Ensure that notifications are sent to the sales team when a lead is added by using Slack

Power Automate is a service that helps you create automated workflows between your favorite apps and services to synchronize files, get notifications, collect data, and more.

Box 2: Business rule
A trigger must be created that changes the Priority field to 1 in the Account record 10 days after an account record is created.
A field named Priority_Trigger must be created to trigger the Priority field.
Business rules provide a simple interface to implement and maintain fast-changing and commonly used rules. Box 3: Business process flow
Ensure that leads have a review stage added to the sales process.

Use business process flows to define a set of steps for people to follow to take them to a desired outcome. These steps provide a visual indicator that tells people where they are in the business process.

Reference:
https://docs.microsoft.com/en-us/power-automate/
https://docs.microsoft.com/en-us/dynamics365/customerengagement/on-premises/customize/create-business-rules-recommendations-apply-logic-form
https://docs.microsoft.com/en-us/power-automate/business-process-flows-overview

Exam Topic: Configure business process automation

Testlet 3

Case study
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buttons displays information such as business requirements, existing environment, and problem statements. If the case study has an All Information tab, note that the information displayed is identical to the information displayed on the subsequent tabs. When you are ready to answer a question, click the question button to return to the question.

Background
Bellows Sports is the region's newest, largest, and most complete sports complex. The company features baseball and soccer fields and two full-size hockey rinks. The complex provides coaching, recreational leagues, a pro shop, and state-of-the art customer and player amenities.
The company is organized into the following divisions:

- Baseball
- Hockey
- Soccer

Bellow Sports runs tournaments several times per year. Each tournament runs six weeks.

Current environment

Requirements
Bellow Sports tracks players and events in Microsoft Excel workbooks and uses email to communicate with players, partners, and prospective customers. The company uses a proprietary cloud-based accounting system.

The company relies on referrals from athletes for new business. Bellows uses a third-party marketing company to gather feedback and referrals from athletes. The third-party marketing company uploads a Microsoft Excel file containing lists of potential customers and players to the FTP site that Bellows Sports maintains.

Tournaments
Customer information is stored in the Accounts entity. Each tournament record must list the associated sales representative as the tournament owner. When team members create tournament records they must enter the start date for a tournament. The end date of the tournament must be automatically calculated.

Registration form
You must create a form to allow players to register for tournaments. The registration form must meet the following requirements:

Division	Requirement
Baseball	Capture the age and weight of the player. The height field must not display.
Hockey	Capture the age, height, and weight of the player.
Soccer	Capture the age of the player. The height and weight fields must not display.

- Each division has tournaments that take place in specific locations. Users must be able to select the division for a tournament location.
- Information about upcoming tournaments must be pre-located into the registration form when the registration form loads.
- The form must include a custom button that sends an email confirmation to the player after the player registers.

- The button must not be visible until after the form is saved.

Security
The company identifies the following job roles:

Role	Tasks
Sales representative	These users will enter data into Dynamics 365 Customer Service.
Intern	These users will create Power Apps apps, and connectors, and create Power Automate flows.
Manager	These users will add users, assign security roles, and manage data storage.

You must grant users the minimum permissions required to perform their job tasks.

Data automation
- Customer name must be added to Dynamics 365 Finance automatically after it is entered.
- You must produce a report that details the number of registrations for a day and send the report as a PDF to the management team.
- You must implement mechanisms to handle all code-related errors.
- When a customer record is updated, the system must look up the account number for the customer in the accounting system.
- Referrals must be imported into the system as soon as they are available.

Issues Apps
- The captions for the New and Save buttons do not render properly on the form.
- Interns can create apps but cannot interact with their own data.

Portal
The query for all registered users must return the data categorized by division. Queries must return only the Name and Sport fields. Queries return all fields. The query is as follows:

```
GET [Organization URI]/api/data/v9.1/accounts?
&$orderby=Name, sport
&$filter=sport ne null
```

Solution checker issues
You run solution checker and observe Plug-in or workflow activity errors in the following code sets:

Set	Code	Error message
Code set 1	CS101 var columns = new ColumnSet(); CS102 columns.AllColumns = true; CS103 var query = new QueryExpression("account"); CS104 query.ColumnSet = columns; CS105 var results = service.RetrieveMultiple(query);	il-specify-column
Code Set 2	CS201 WebRequest request = WebRequest.Create ("https://www.bellows.com/api/stuff"); CS202 HttpWebResponse response = new HttpWebResponse(); CS203 CS204 respone = request.GetResponse(); CS205 response.Close();	il-turn-off-keepalive

Code

The following code runs when the registration form loads. You must implement a mechanism to handle errors that occur in the code:

```
UpdateRecord.js (Line numbers are included for reference only.)

UR01
UR02 var data =
UR03      {
UR04        "name" : "Updated Account"
            "creditonhold" : true,
            "description" : "This is an account update",
            "revenue" : 10,000,
            "Division" : 2
          }
UR05 . . .
UR06
```

QUESTION: 1

You need to handle errors in UpdateRecord.js. Which code segment should you add at line UR06?

A. catch(error) {
    alert("Caught error: " + error.message);}

B. Exception exception = Server.GetLastError() ;
    if(exception != null)}

C. catch(exception e){
    console.writeline(e)}

D. function (error){
    console.log(error.message)}

Answer(s): A

Explanation:
The catch statement lets you handle the error.
Syntax: catch(err) {
Block of code to handle errors
}

Reference:
https://www.w3schools.com/js/js_errors.asp

QUESTION: 2
You need to configure the system to support automation for referrals.
What are two possible ways to achieve the goal? Each correct selection presents a complete solution.
NOTE: Each correct selection is worth one point.

A. Azure Function that uses the Discovery service
B. workflow extension
C. Azure Function that uses a listener
D. Power Automate flow

Answer(s): B, D

QUESTION: 3
DRAG DROP
You need to determine how to implement rules for players who register for a soccer tournament.

Which business rule actions should you use? To answer, drag the appropriate business rule actions to the correct fields. Each business rule action may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.

NOTE: Each correct selection is worth one point.
Select and Place:

Exhibit A:

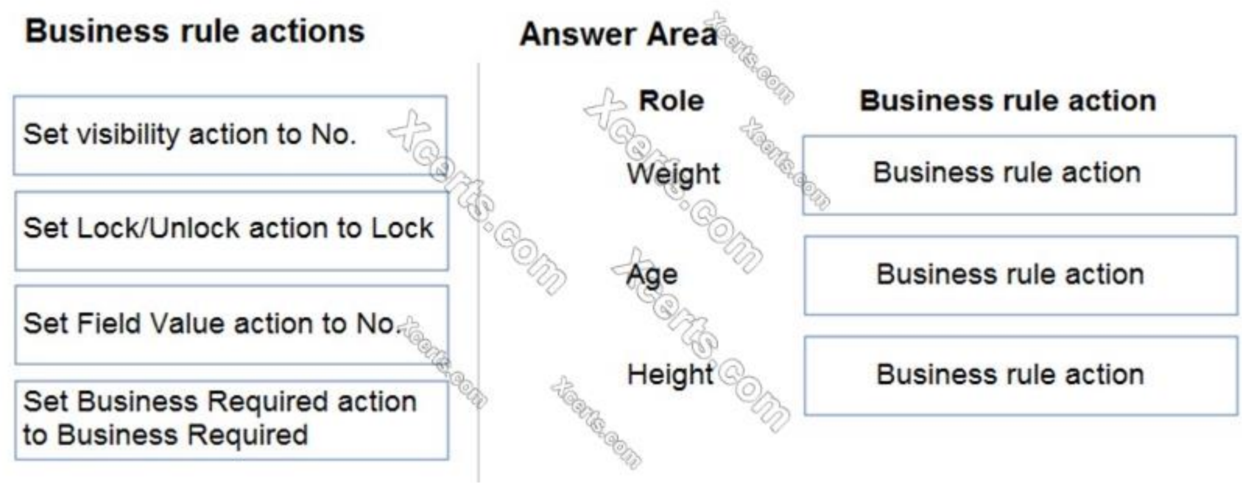
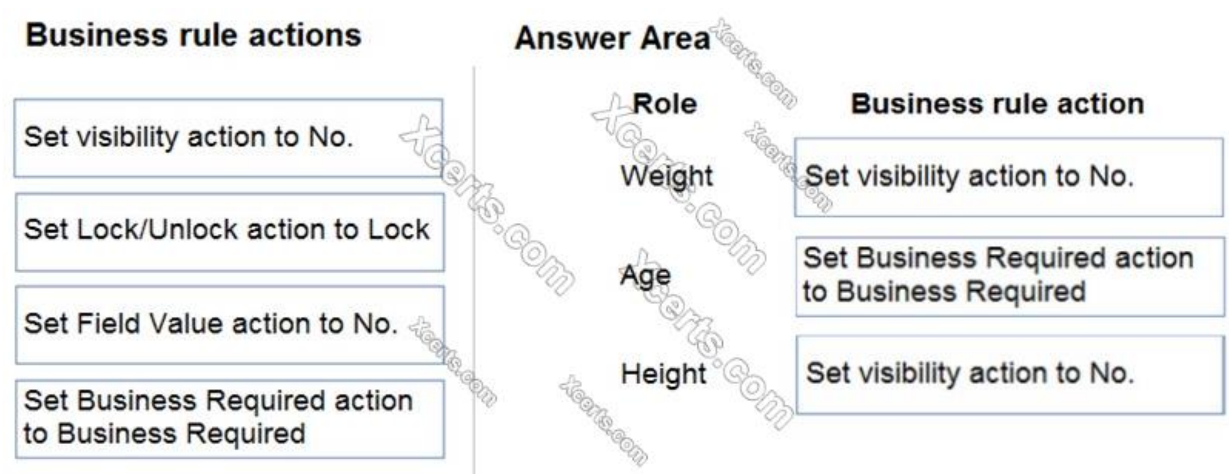


Exhibit B:



A. Please refer to Exhibit B for the answer.

Answer(s): A

Explanation:
Scenario:

Division	Requirement
Baseball	Capture the age and weight of the player. The height field must not display.
Hockey	Capture the age, height, and weight of the player.
Soccer	Capture the age of the player. The height and weight fields must not display.

Weight: Set visibility action to No.

Age: Set Business Required action to Business required Height: Set visibility action to No.

Exam Topic: Configure business process automation questions

QUESTION: 1
You have a Common Data Service entity and a model-driven app. The model-driven app integrates with an external system.

You plan to run business logic each time the model-driven app creates a record. Running business logic must not negatively affect model-driven app users.

You need to implement the business logic. What should you use?

A. Synchronous plug-in registered in the PreOperation stage
B. Synchronous workflow
C. Asynchronous plug-in registered in the PostOperation stage

Answer(s): C

Explanation:
The asynchronous service executes long-running operations independent of the main Microsoft Dataverse core operation. This results in improved overall system performance and improved scalability.

Reference:
https://docs.microsoft.com/en-us/powerapps/developer/common-data-service/asynchronous-service

QUESTION: 2
HOTSPOT
A company is preparing to go live with their Dynamics 365Sales solution, but first they need to migrate data from a legacy system. The company is migrating accounts in batches of 1,000.

When the data is saved to Dynamics 365 Sales, the IDs for the new accounts must be output to a log file. You have the following code:

```
ExecuteMultipleRequest request = new ExecuteMultipleRequest()
{
  Settings = new ExecuteMultipleSettings()
  {
    ContinueOnError = true,
    ReturnResponses = false
  },
  Requests = new OrganizationRequestCollection()
 };
GetAccountData(request.Requests);
ExecuteMultipleResponse responseWithResults = (ExecuteMultipleResponse)
crmSvc.Execute(request);
foreach (var responseItem in responseWithResults.Responses)
{
 . . .
}
```

For each of the following statements, select Yes if the statement is true. Otherwise, select No.
Hot Area:

Exhibit A:

Answer Area

Statement	Yes	No
The developer is able to get access to the newly-created accounts IDs.		
If an error occurs, the developer can get access to the request that caused the fault.		
If there are errors in the requests, the request will raise an exception at the first error and stop processing.		
If there are ten errors in the 1,000 CreateRequest requests, ten responses will be returned from the platform.		

Exhibit B:

Answer Area

Statement	Yes	No
The developer is able to get access to the newly-created accounts IDs.		
If an error occurs, the developer can get access to the request that caused the fault.		
If there are errors in the requests, the request will raise an exception at the first error and stop processing.		
If there are ten errors in the 1,000 CreateRequest requests, ten responses will be returned from the platform.		

A. Please refer to Exhibit B for the answer.

Answer(s): A

Explanation:
Box 1: No

Box 2: Yes
ContinueOnError: When true, continue processing the next request in the collection even if a fault has been returned from processing the current request in the collection. When false, do not continue processing the next request.

ReturnResponses: When true, return responses from each message request processed. When false, do not return responses.
When false, the Responses collection will not be empty if errors are returned. If errors are returned, there will be one response item in the collection for each processed request that returned a fault and Fault will be set to the actual fault that occurred.

Box 3: No

Box 4: Yes
For example, in a request collection that contains six requests where the third and fifth request return faults, the following table indicates what the Responses collection would contain.
ContinueOnError=true, ReturnResponses=false: 2 response items: 2 have Fault set to a value.

Reference:
https://docs.microsoft.com/en-us/powerapps/developer/common-data-service/org-service/execute-multiple-requests

QUESTION: 3
DRAG DROP

You are creating a business process flow for an organization's Request for Quote process. You need to ensure that the business process flow meets the company's requirements.

Which components should you use? To answer, drag the appropriate components to the correct requirements. Each component may be used once, more than once, or not at all. You may need to drag the split bar between panes to scroll to view content. Select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.
Select and Place:

Exhibit A:

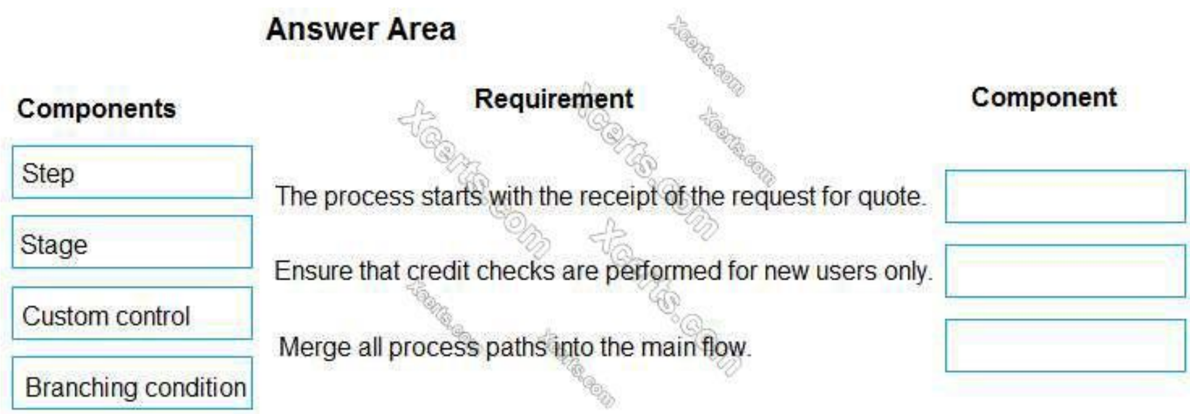
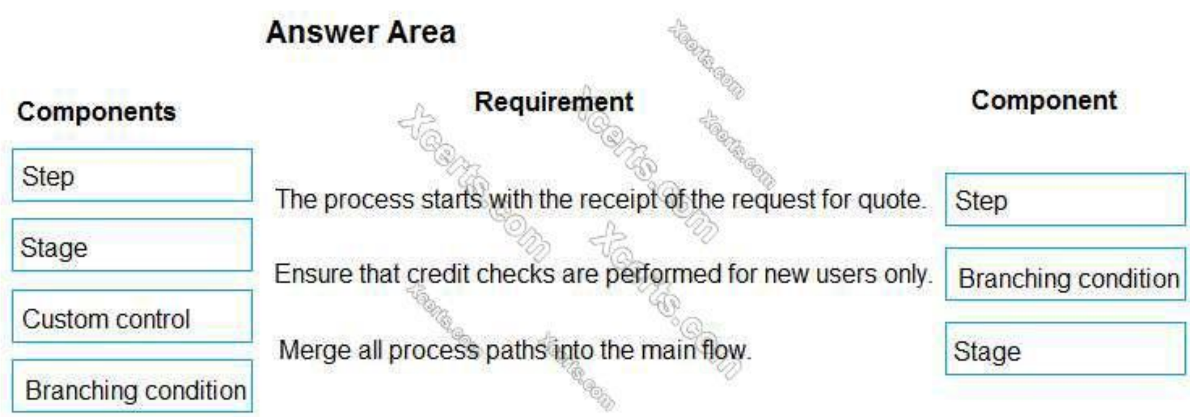


Exhibit B:



A. Please refer to Exhibit B for the answer.

Answer(s): A

Explanation:
Box 1: Step
Each step represents a field where data can be entered.
Stages tell you where you are in the process, while steps are action items that lead to a desired outcome.

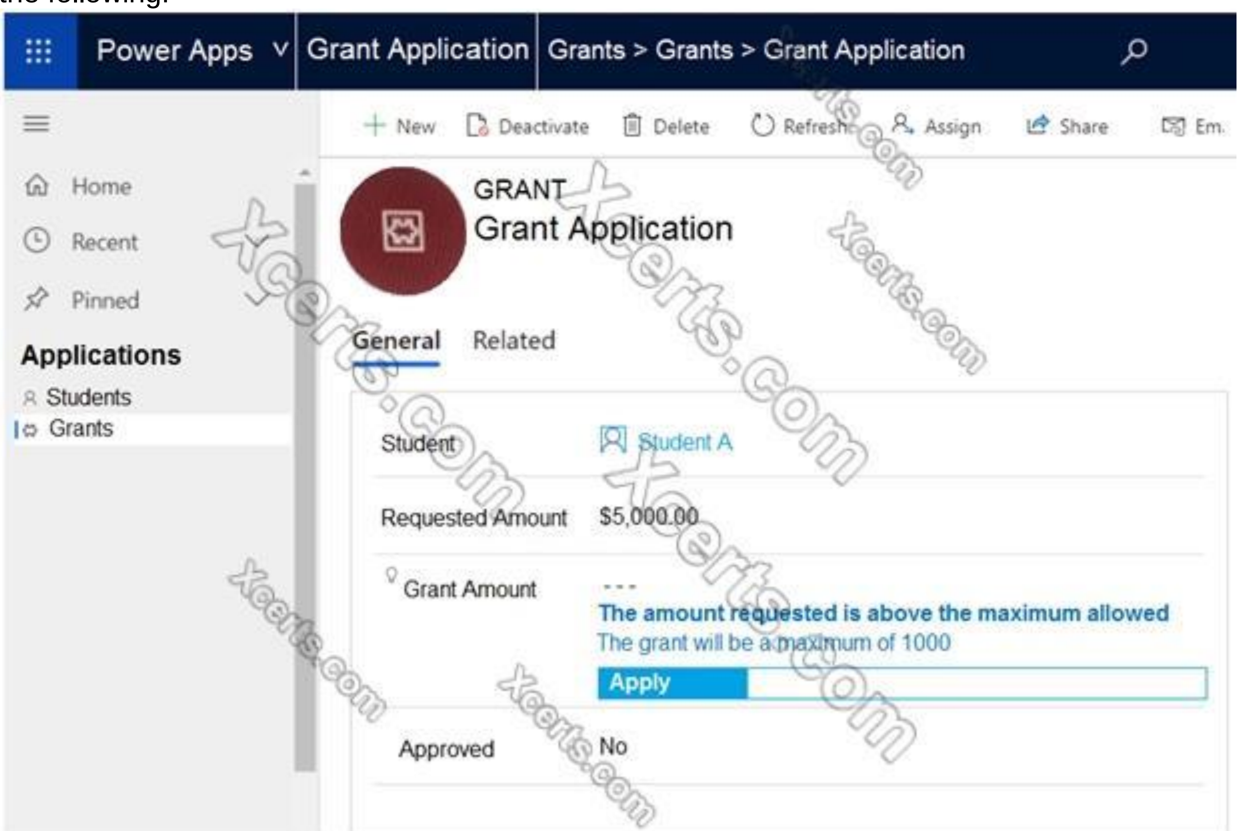
Box 2: Branching condition
You can enhance a business process flow with branching. If you have the create permissions on business process flows, you'll be able create business process flow with multiple branches by using the If-Else logic.

Box 3: Stage
Each stage contains a group of steps.

Incorrect Answers:
You can use custom controls to add rich visualizations (such as sliders, radial knobs, the LinkedIn control, and more) to business process flows steps and deliver engaging experiences to those who use your business process.

Reference:
https://docs.microsoft.com/en-us/power-automate/business-process-flows-overview
https://docs.microsoft.com/en-us/power-automate/enhance-business-process-flows-branching

QUESTION: 4
HOTSPOT
A university manages grant applications using a model-driven app.
Users report that the message on the Grant Application screen is outdated. The screen shows the following:



Use the drop-down menus to select the answer choice that answers each question based on the information presented in the graphic.

NOTE: Each correct selection is worth one point.
Hot Area:

Exhibit A:

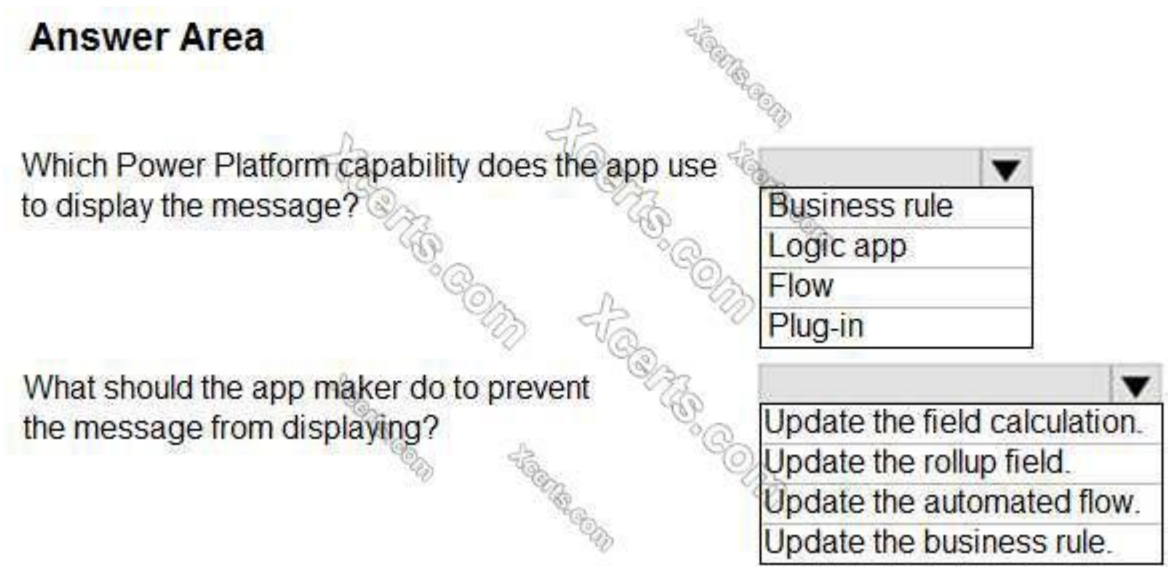
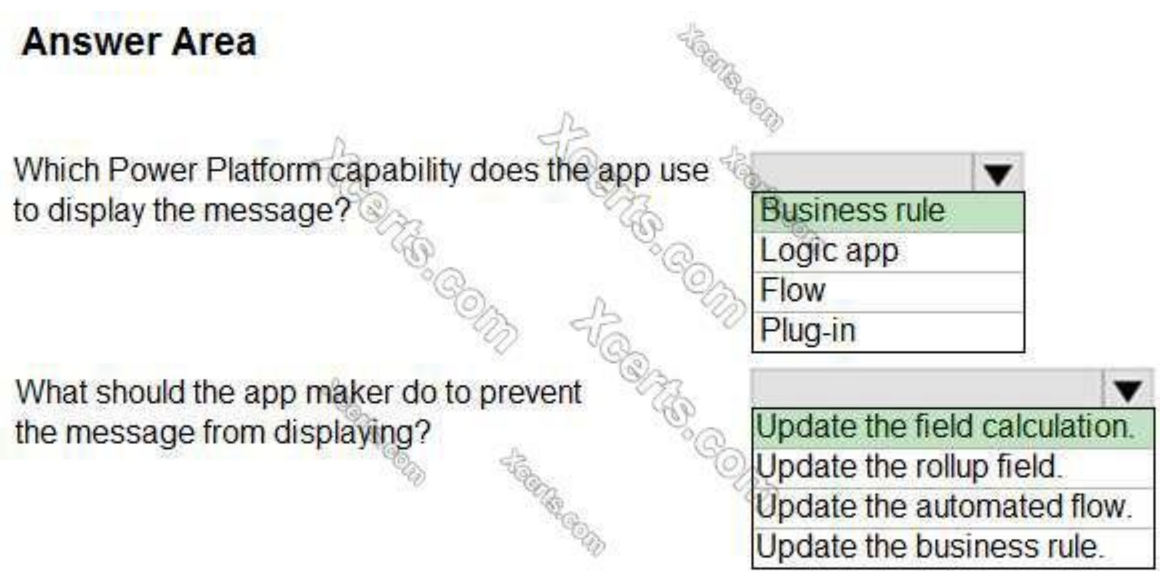


Exhibit B:



A. Please refer to Exhibit B for the answer.

Answer(s): A

Reference:

https://www.loganconsulting.com/blog/how-use-power-automate-trigger-workflows-microsoft-dynamics-crm/

QUESTION: 5
A manufacturing company uses a Common Data Service (CDS) environment to manage their parts inventory across two warehouses modeled as business units and named WH1 and WH2.

Data from the two warehouses is processed separately for each part that has its inventory quantities updates. The company must automate this process, pushing inventory updates from orders submitted to the warehouses.

You need to build the automation using Power Automate flows against the CDS database. You must achieve this goal by using the least amount of administrative effort.

Which flow or flows should you recommend?

A. Two automated flows with scope Business Unit, with triggers on Create/Update/Delete on orders.
B. Two automated flows with scope Business Unit, with triggers on Create/Update/Delete and each flow filtering updates from each business unit.
C. Two scheduled flows, each querying and updating the parts included in orders from each business unit.
D. One scheduled flow, querying the parts included in orders in both business units.
E. One automated flow, querying the orders in both business units.
F. Two scheduled flows, each querying the orders from each business unit.
G. Two automated flows with scope Organization, with triggers on Create/Update/Delete and filters on WH1 and WH2.
H. Two automated flow with scope Business Unit, with triggers on Create/Update/Delete on orders and filters on WH1 and WH2.

Answer(s): H

Explanation:
With the Common Data Service connector, you can create Power Automate flows that are initiated by create and update events within Dataverse. Additionally, you can perform create, update, retrieve, and delete actions on records within Dataverse.

You can use scopes to determine if your flow runs if you create a new record, if a new record is created by a user within your business unit, or if a new record is created by any user in your organization.

Reference:
https://docs.microsoft.com/en-us/power-automate/connection-cds

QUESTION: 6
An organization implements Dynamics 365 Sales.
You need to trigger a business rule when the main form in saved. What should you do?

A. Write a business rule to trigger on a change of ModifiedOn field.

B. Set the scope of the business rule to one specific form where business rule triggers.
C. Set the scope of the business rule to All Forms.
D. Set the scope of the business rule to Entity.

Answer(s): D

Explanation:
Set scope of business rule to "Entity" instead of "All Form". This will trigger it on server side.

Reference:
https://docs.microsoft.com/en-us/previous-versions/dynamicscrm-2016/developers-guide/dn481574(v=crm.8)

QUESTION: 7
A company implements Dynamics 365 Sales.
An email notification must be sent automatically to the sales manager when a business process completes. You need to ensure that emails are sent.
What should you create on the process completed trigger?

A. a workflow
B. an action step
C. a data step
D. a Power Automate flow step

Answer(s): A

Explanation:
When you include a workflow that you want to trigger on Stage Exit of a stage in your business process flow, and that stage is the last stage in the flow, the designer gives the impression that the workflow will be triggered when that stage is completed.

Reference:
https://docs.microsoft.com/en-us/dynamics365/customerengagement/on-premises/customize/business-process-flows-overview

QUESTION: 8
You create a Power Virtual Agents chatbot in an environment named Environment1. A colleague creates a Power Automate flow in the default solution in the default environment.

The chatbot in Environment1 does not recognize the flow in the default environment. You need to ensure the chatbot can access the flow.
Which two actions should you perform? Each correct answer presents part of the solution.

NOTE: Each correct selection is worth one point.

A. Add the Power Automate flow to a solution in Environment1.
B. Send a copy of the Power Automate flow from the default environment.
C. Add the Power Automate flow to a solution in the default environment.

D. Export the solution from the default environment and import the solution into Environment1.
E. Share the Power Automate flow from the default environment.

Answer(s): A, E

Explanation:
E: The flow needs to be shared as it was created by another person.

A: To be available to your bots, flows must be stored in a solution in Power Automate. If you do not want to use the Default Solution for this purpose, you can move your flows to another solution.

Incorrect Answers:
C: The flow is already in the default solution in the default environment. D: You move the flow, not export and import the solution.

Reference:
https://docs.microsoft.com/en-us/power-virtual-agents/environments-first-run-experience

QUESTION: 9
A customer wants to design a complex business process flow that includes six custom entities and four stages for each entity. One of the stages will have 15 steps.

You need to explain the flaw in this design to the customer. What is the flaw in this design?

A. The maximum number of custom entities has been exceeded.
B. The maximum number of steps for a stage has been exceeded.
C. The maximum number of stages for an entity has been exceeded.
D. The minimum number of stages for an entity has not been met.
E. The minimum number of steps for a stage has not been met.

Answer(s): A

Explanation:
Maximum number of processes, stages, and steps:
To ensure acceptable performance and the usability of the user interface, there are some limitations you need to be aware of when you plan to use business process flows:

- Multi-entity processes can contain no more than five entities.
- There can be no more than 10 activated business process flow processes per entity.
- Each process can contain no more than 30 stages.

Reference:
https://docs.microsoft.com/en-us/power-automate/business-process-flows-overview

QUESTION: 10
DRAG DROP

An organization has a Dynamics 365 Sales environment. In the development environment, you create a business rule named BusinessRule1 on the Account entity. You deploy BusinessRule1 to production as part of a managed solution.

You need to remove BusinessRule1 from the production environment.

Which three actions should you perform in sequence? To answer, move the appropriate actions from the list of actions to the answer area and arrange them in the correct order.

Select and Place:

Exhibit A:

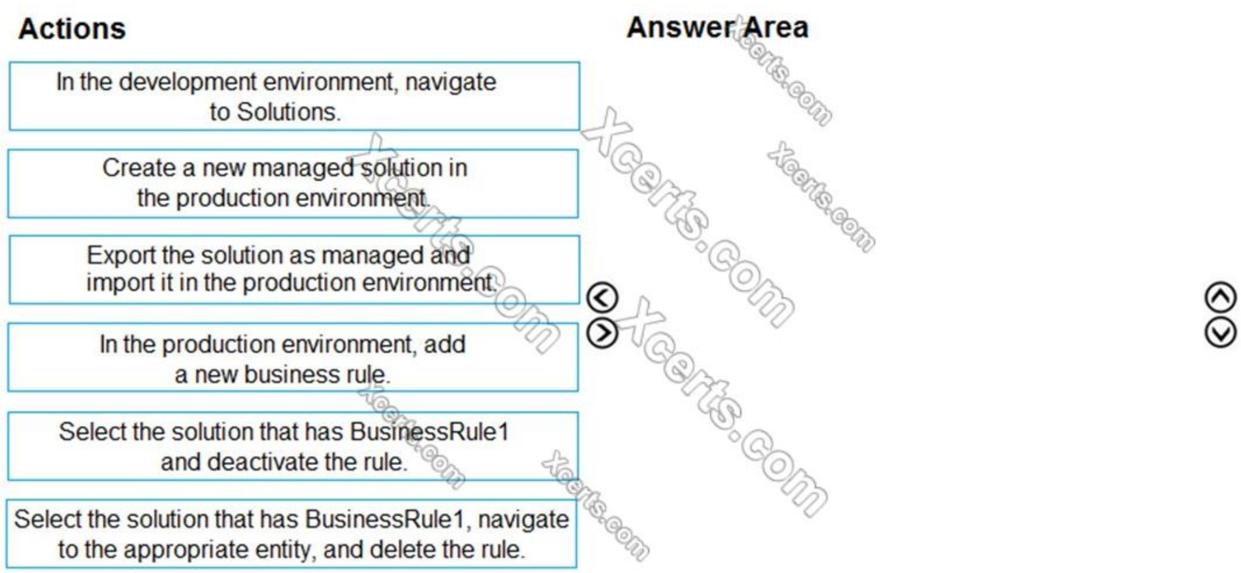
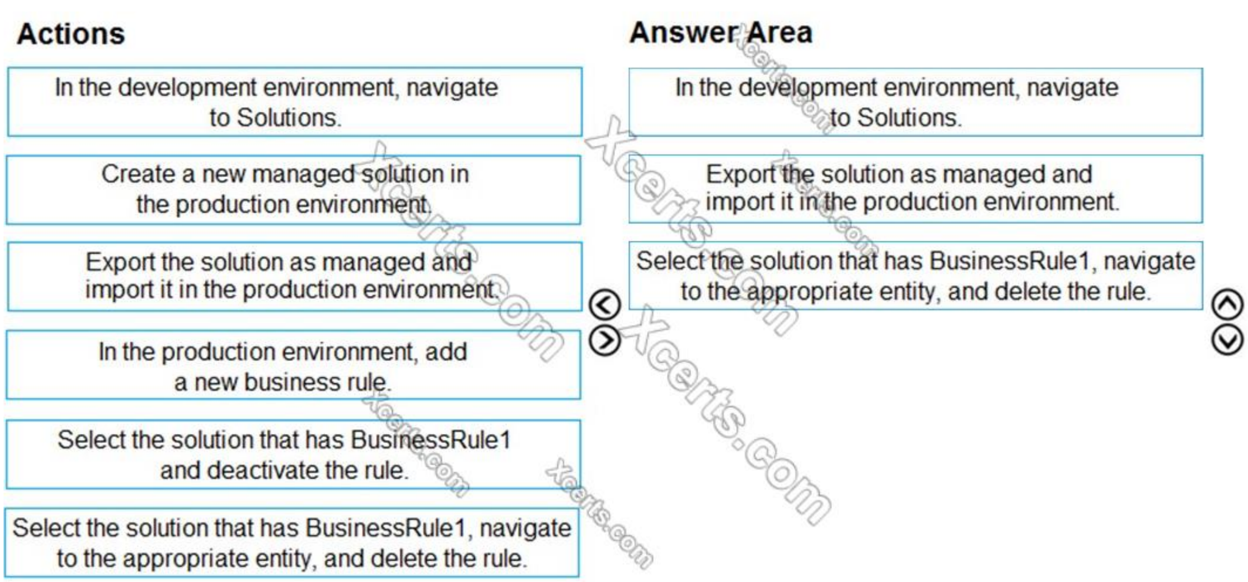


Exhibit B:



A. Please refer to Exhibit B for the answer.

Answer(s): A

Explanation:
Step 1: In the development environment, navigate to Solutions.
The only supported way of transferring customizations from one CRM organization to another has been through Solutions.
With Solution Management came the concept of Managed and Unmanaged Solutions.

Step 2: Export the solution as managed and import it in the production environment.
Managed is a way to protect your IP (Intellectual Property) with an easy concept of install and uninstall. Step 3: Select the solution that has BusinessRule1, navigate to the appropriate entity, and delete the rule.

Reference:
https://www.inogic.com/blog/2016/01/solution-management-with-dynamics-crm-2016/

QUESTION: 11
HOTSPOT
You are a Power Apps app maker with administrative rights to Microsoft 365.
You create a canvas app that will be used by employees at your company. You plan to allow users to embed the app in Microsoft Teams. During testing, the following issues are reported:

- The app runs slowly when it runs in Microsoft Teams.
- Test users cannot add the personal app within Microsoft Teams.

You need to resolve the issues.

What should you do? To answer, select the appropriate options in the answer area.
NOTE: Each correct selection is worth one point.

Hot Area:

Exhibit A:

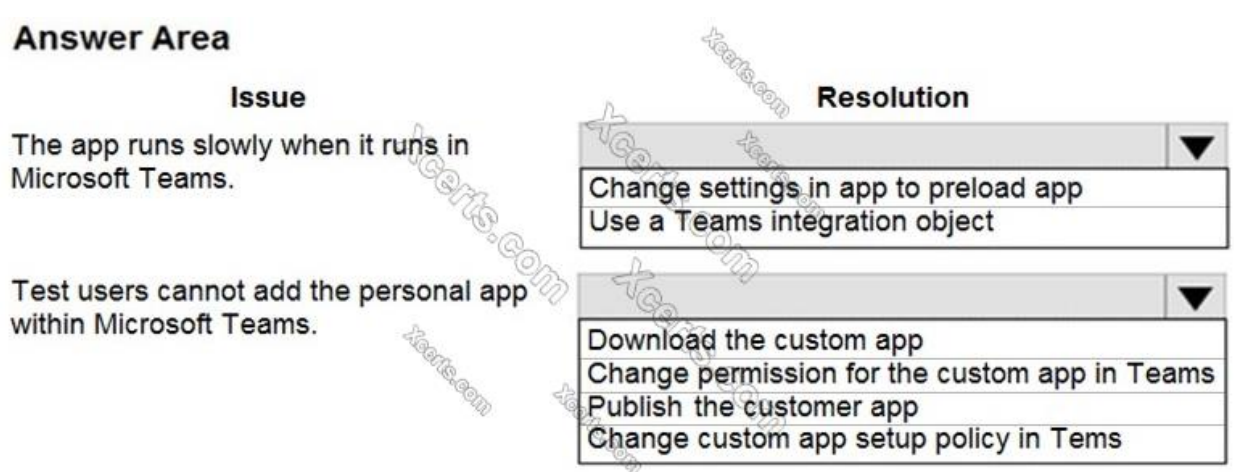
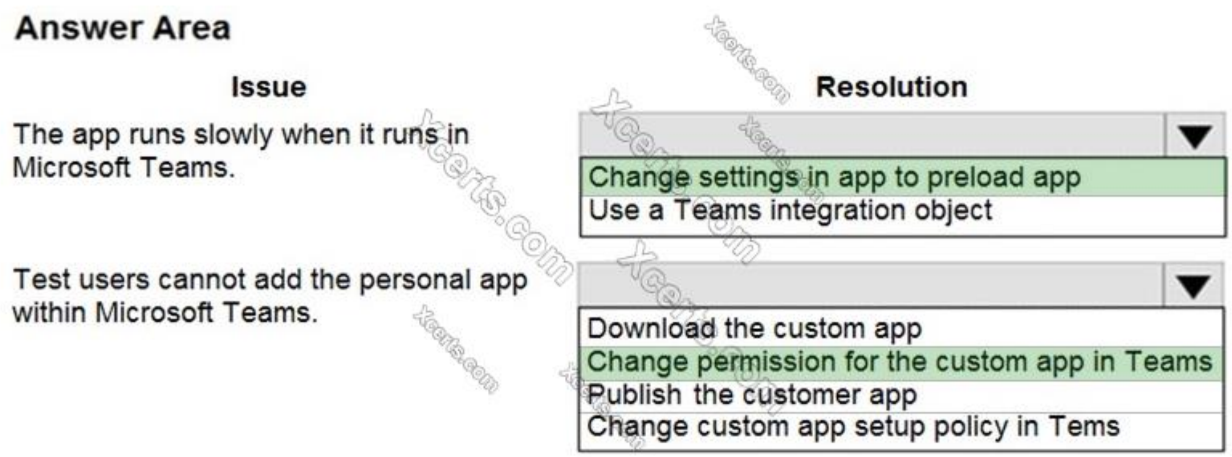


Exhibit B:



A. Please refer to Exhibit B for the answer.

Answer(s): A

Explanation:
Box 1: Change settings in app to preload app
You can optionally preload your app within Teams to increase performance.

Box 2: Change the permission for the custom app in Teams
As an admin, you can use app permission policies to control what apps are available to Microsoft Teams users in your organization. You can allow or block all apps or specific apps published by Microsoft, third-parties, and your organization. When you block an app, users who have the policy are unable to install it from the Teams app store.

You manage app permission policies in the Microsoft Teams admin center. You can use the global (Org-wide default) policy or create and assign custom policies. Users in your organization will automatically get the global policy unless you create and assign a custom policy. After you edit or assign a policy, it can take a few hours for changes to take effect.

Reference:
https://docs.microsoft.com/en-us/powerapps/teams/embed-teams-app
https://docs.microsoft.com/en-us/microsoftteams/teams-app-permission-policies

QUESTION: 12
DRAG DROP
You are developing a Power Platform solution.

You must add a custom control slider to a specific step in a business process flow. You need to add the custom control.

Which four actions should you perform in sequence? To answer, move the appropriate actions from the list of actions to the answer area and arrange them in the correct order.

Select and Place:

Exhibit A:

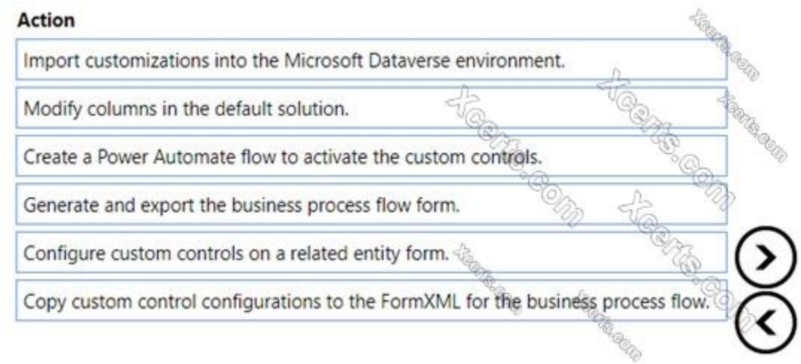
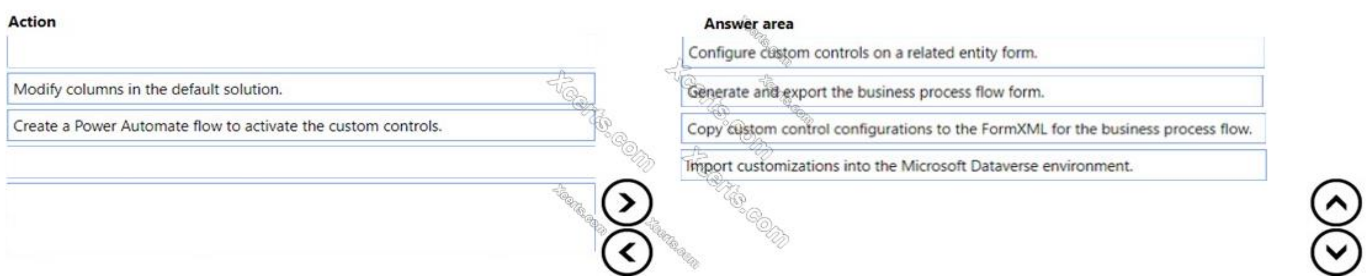


Exhibit B:



A. Please refer to Exhibit B for the answer.

Answer(s): A

Explanation:
Here are the steps you must follow to add custom controls to a business process flow: Step 1: Configure custom controls on a related entity.
Step 2: Generate and exporting the business process flow form.

Step 3: Copy custom control configurations to the FormXML for the business process flow. Step 4: Import customizations into the Microsoft Dataverse environment.

Note:
1. Configure custom controls on a related table form.
2. Generate and exporting the business process flow form.
3. Copy custom control configurations to the business process flow form from the related table form.
4. Import the customizations back into Microsoft Dataverse.

Reference:
https://docs.microsoft.com/en-us/power-automate/custom-controls-business-process-flows

QUESTION: 13
HOTSPOT
A company is creating a new system based on Dynamics 365 Sales. The company has the following requirements for their claim process:

- Approval process must be the same for all claim applications.
- Claim applications must go through approvers at each stage.
- Fields must be shown or hidden, based on the requirements in the approval process.

You need to design the data model for the claim process using out-of-the-box components whenever possible. Which features should you implement? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.
Hot Area:

Exhibit A:

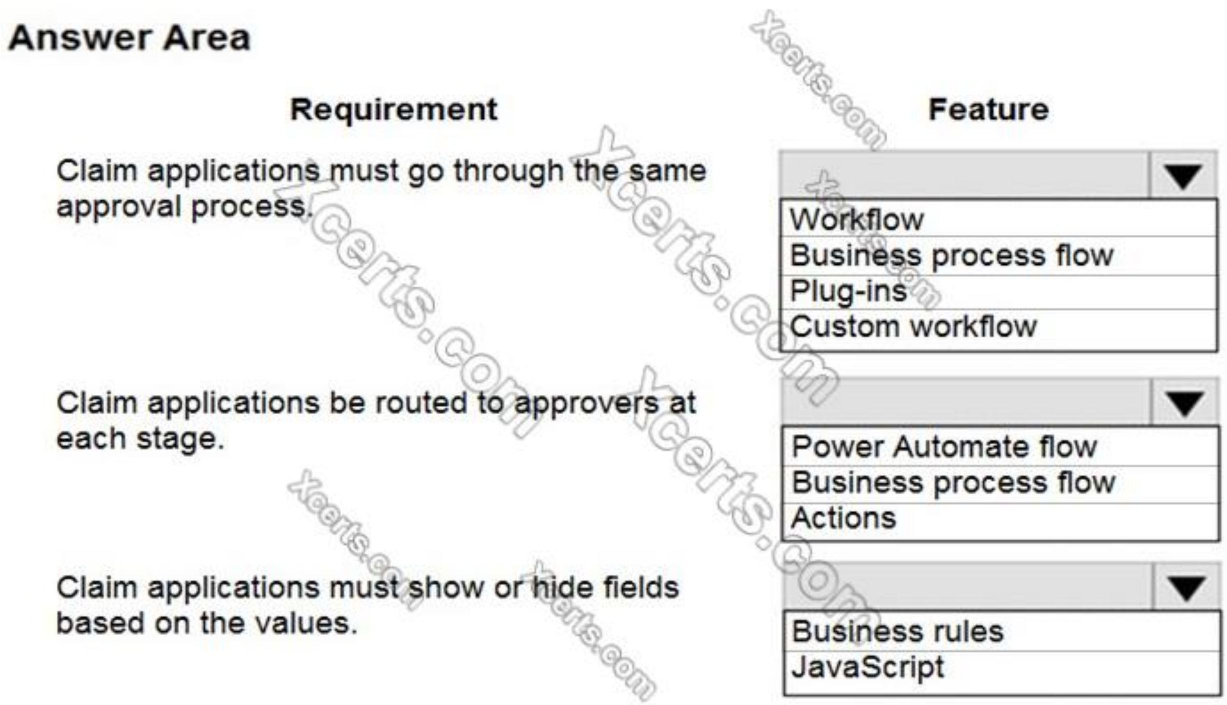
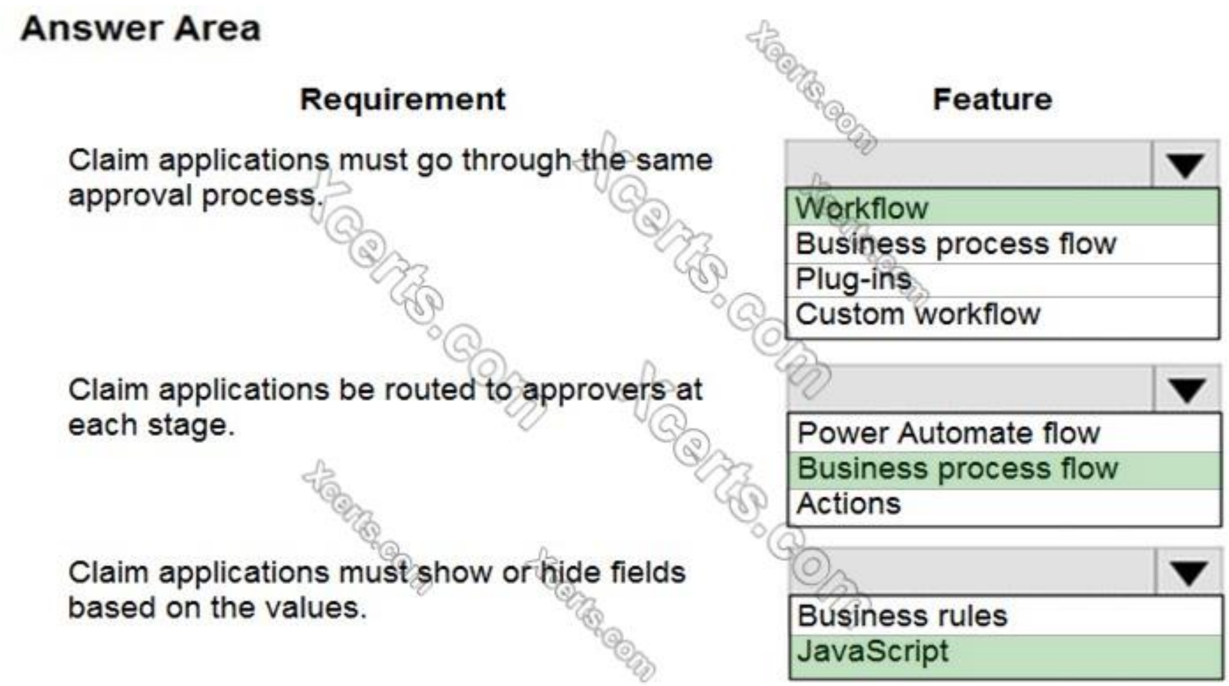


Exhibit B:



A. Please refer to Exhibit B for the answer.

Answer(s): A

Explanation:
Box 1: Workflow
You configure the approval processes in a workflow.

Box 2: Business process flow
By integrating your approvals feature with Power Automate, you can implement features such as these: Automatically generate and send request-for-approval emails to approvers.

Include active approve and reject buttons in request-for-approval emails.
Easy customization of the approval steps, using a framework that most administrators will be able to understand and adjust for themselves.

Box 3: JavaScript
In Dynamics 365, you can hide and show fields using JavaScript. This is useful if you have business logic that determines if fields are displayed or not to the user.

Reference:
https://docs.microsoft.com/en-us/dynamics365/fin-ops-core/fin-ops/organization-administration/configure-approval-process-workflow

Exam Topic: Extend the user experience

Testlet 1

Case study
This is a case study. Case studies are not timed separately. You can use as much exam time as you would like to complete each case. However, there may be additional case studies and sections on this exam. You must manage your time to ensure that you are able to complete all questions included on this exam in the time provided.

To answer the questions included in a case study, you will need to reference information that is provided in the case study. Case studies might contain exhibits and other resources that provide more information about the scenario that is described in the case study. Each question is independent of the other questions in this case study.

At the end of this case study, a review screen will appear. This screen allows you to review your answers and to make changes before you move to the next section of the exam. After you begin a new section, you cannot return to this section.

To start the case study
To display the first question in this case study, click the Next button. Use the buttons in the left pane to explore the content of the case study before you answer the questions. Clicking these buttons displays information such as business requirements, existing environment, and problem statements. If the case study has an All Information tab, note that the information displayed is identical to the information displayed on the subsequent tabs. When you are ready to answer a question, click the question button to return to the question.

Background
Bellows Sports is the region’s newest, largest, and most complete sports complex. The company features baseball and soccer fields and two full-size hockey rinks. The complex provides coaching, recreational leagues, a pro shop, and state-of-the art customer and player amenities.
The company is organized into the following divisions:

- Baseball
- Hockey
- Soccer

Bellow Sports runs tournaments several times per year. Each tournament runs six weeks.

Current environment

Requirements
Bellow Sports tracks players and events in Microsoft Excel workbooks and uses email to communicate with players, partners, and prospective customers. The company uses a proprietary cloud-based accounting system.

The company relies on referrals from athletes for new business. Bellows uses a third-party marketing company to gather feedback and referrals from athletes. The third-party marketing company uploads a Microsoft Excel file containing lists of potential customers and players to the FTP site that Bellows Sports maintains.

Tournaments
Customer information is stored in the Accounts entity. Each tournament record must list the associated sales representative as the tournament owner. When team members create tournament records they must enter the start date for a tournament. The end date of the tournament must be automatically calculated.

Registration form
You must create a form to allow players to register for tournaments. The registration form must meet the following requirements:

Division	Requirement
Baseball	Capture the age and weight of the player. The height field must not display.
Hockey	Capture the age, height, and weight of the player.
Soccer	Capture the age of the player. The height and weight fields must not display.

- Each division has tournaments that take place in specific locations. Users must be able to select the division for a tournament location.
- Information about upcoming tournaments must be pre-located into the registration form when the registration form loads.
- The form must include a custom button that sends an email confirmation to the player after the player registers.
- The button must not be visible until after the form is saved.

Security
The company identifies the following job roles:

Role	Tasks
Sales representative	These users will enter data into Dynamics 365 Customer Service.
Intern	These users will create Power Apps apps, and connectors, and create Power Automate flows.
Manager	These users will add users, assign security roles, and manage data storage.

You must grant users the minimum permissions required to perform their job tasks.

Data automation
- Customer name must be added to Dynamics 365 Finance automatically after it is entered.
- You must produce a report that details the number of registrations for a day and send the report as a PDF to the management team.
- You must implement mechanisms to handle all code-related errors.
- When a customer record is updated, the system must look up the account number for the customer in the accounting system.
- Referrals must be imported into the system as soon as they are available.

Issues Apps
- The captions for the New and Save buttons do not render properly on the form.
- Interns can create apps but cannot interact with their own data.

Portal
The query for all registered users must return the data categorized by division. Queries must return only the Name and Sport fields. Queries return all fields. The query is as follows:

```
GET [Organization URI]/api/data/v9.1/accounts?
&$orderby=Name, sport
&$filter=sport ne null
```

Solution checker issues
You run solution checker and observe Plug-in or workflow activity errors in the following code sets:

Set	Code	Error message
Code set 1	CS101 var columns = new ColumnSet(); CS102 columns.AllColumns = true; CS103 var query = new QueryExpression("account"); CS104 query.ColumnSet = columns; CS105 var results = service.RetrieveMultiple(query);	il-specify-column
Code Set 2	CS201 WebRequest request = WebRequest.Create ("https://www.bellows.com/api/stuff"); CS202 HttpWebResponse response = new HttpWebResponse(); CS203 CS204 respone = request.GetResponse(); CS205 response.Close();	il-turn-off-keepalive

Code
The following code runs when the registration form loads. You must implement a mechanism to handle errors that occur in the code:

```
UpdateRecord.js (Line numbers are included for reference only.)

UR01
UR02 var data =
UR03      {
UR04        "name" : "Updated Account"
            "creditonhold" : true,
            "description" : "This is an account update",
            "revenue" : 10,000,
            "Division" : 2
          }
UR05 . . .
UR06
```

QUESTION: 1
DRAG DROP
You need to address the user interface issues.

What should you do? To answer, drag the appropriate actions to the correct issues. Each action may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.

NOTE: Each correct selection is worth one point.
Select and Place:

Exhibit A:

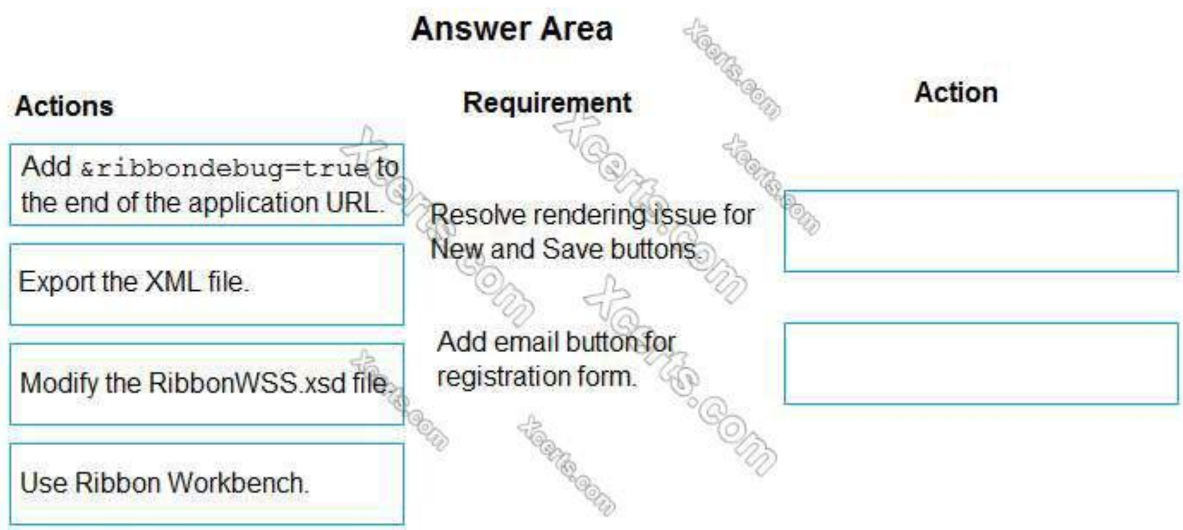
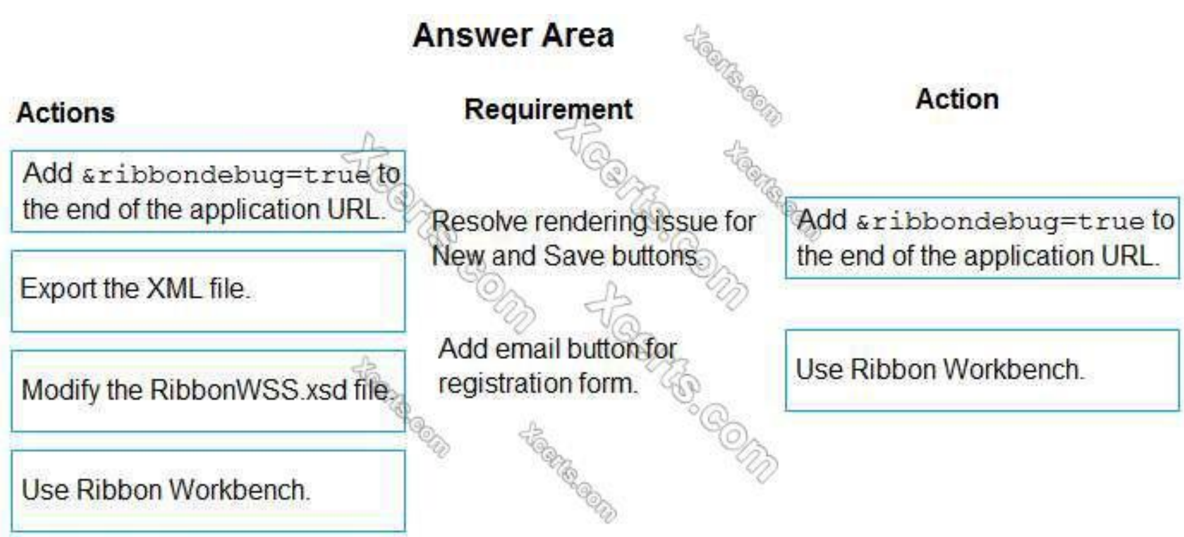


Exhibit B:



A. Please refer to Exhibit B for the answer.

Answer(s): A

Explanation:
Box 1: Add &ribbondebug=true to the end of the application URL.
Scenario: The captions for the New and Save buttons do not render properly on the form.
You can use the an in-app tool called the Command Checker to inspect the ribbon component definitions to help us determine why the button is not rendered correctly.

To enable the Command Checker, you must append a parameter &ribbondebug=true to your D365 application URL. For example:
https://yourorgname.crm.dynamics.com/main.aspx?appid=9ab590fc-d25e-ea11-a81d-000d3ac2b3e6&ribbondebug=true

Box 2: Use the Ribbon Workbench Adding Buttons to Ribbons

1. Download and install Ribbon Workbench.
2. Select a suitable ICON for your button.
3. Create a solution.
4. Edit the button in Ribbon Workbench.
5. Publish and test.

Reference:
https://support.microsoft.com/en-us/help/4552163/ribbon-troubleshooting-guide
https://neilparkhurst.com/2015/10/19/adding-buttons-to-ribbons/

QUESTION: 2
You need to add the script for the registration form event handling. Which code segment should you use?

A. formContext.data.entity.addOnSave(myFunction)
B. formContext.data.addOnLoad(myFunction)
C. formContext.data.removeOnLoad(myFunction)
D. addOnPreProcessStatusChange
E. formContext.data.isValid()

Answer(s): B

Explanation:
Scenario: Information about upcoming tournaments must be pre-located into the registration form when the registration form loads.
addOnLoad adds event handlers to the Subgrid OnLoad event event.

Reference:
https://docs.microsoft.com/en-us/powerapps/developer/model-driven-apps/clientapi/reference/grids/gridcontrol/addonload

QUESTION: 3

You need to add the script to populate event data on the form. Which code segment should you use?

A. formContext.data.addOnLoad(myFunction)
B. formContext.data.removeOnLoad(myFunction)
C. formContext.data.entity.addOnSave(myFunction)
D. addOnPreProcessStatusChange
E. formContext.data.isValid()

Answer(s): D

Explanation:
IsValid() gets a boolean value indicating whether a l of the form data is valid. This includes the main entity and any unbound attributes.
Description: true if a l of the form data is valid; false otherwise. Reference:
https://docs.microsoft.com/en-us/powerapps/developer/model-driven-apps/clientapi/reference/formcontext- data/isvalid

Exam Topic: Extend the user experience questions

QUESTION: 1
HOTSPOT
A company has a model-driven app.

A custom button on a form calls a JavaScript function that validates form data fields and creates a web basket. The JavaScript function then displays a message to the user.

Users are located in the United States, which uses ISO Code 1033, and France, which uses ISO Code 1036. Users in France report that the message displays in English.
You need to modify the RibbonDiffXml file to ensure that messages appear in the user's language.

How should you complete the CommandDefinition node? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.
Hot Area:

Exhibit A:

Answer Area

```
<CommandDefinitions>
 <CommandDefiniion Id= "GenerateBasket.Command">
    <Actions>
      <JavaScriptFunction FunctionName=" generatebasket"
Library="$webresource:mb_/scripts/basket.js">
      <                 ▼ Value="              ▼ " />
       CrmParameter             1033
       IntParameter             1036
       StringParameter          OrgLcid
                                UserLcid

       </JavaScriptFunction>
      </Actions>
    </CommandDefinition>
  </CommandDefinitions>
```

Exhibit B:

Answer Area

```
<CommandDefinitions>
 <CommandDefiniion Id= "GenerateBasket.Command">
    <Actions>
      <JavaScriptFunction FunctionName=" generatebasket"
Library="$webresource:mb_/scripts/basket.js">
      <                 ▼ Value="              ▼ " />
       CrmParameter             1033
       IntParameter             1036
       StringParameter          OrgLcid
                                UserLcid

       </JavaScriptFunction>
      </Actions>
    </CommandDefinition>
  </CommandDefinitions>
```

A. Please refer to Exhibit B for the answer.

Answer(s): A

Explanation:
Box 1: CrmParameter

In addition to data values, you can retrieve client context information by using <CrmParameter>. You can use the following options as the value for the CrmParameter element: OrgName, OrgLcid, and UserLcid.

Box 2: UserLcid
userLCID is the language code of the current user.

Note: A locale is a set of user preference information related to the user's language. The locale determines how dates, times, currencies, and numbers are formatted, how items are alphabetically sorted, and how strings are compared. The locale identifier (LCID) is a 32-bit value that uniquely defines a locale.

Reference:
https://docs.microsoft.com/en-us/dynamics365/customerengagement/on-premises/developer/customize-dev/pass-dynamics-365-data-page-parameter-ribbon-actions

QUESTION: 2
HOTSPOT
A company has a model-driven app that captures applications from prospective students.
You are asked to create a new re-usable custom component using the Power Apps component framework (PCF).

The custom component must allow entry of a date of birth and validate that the applicant is not a minor. You create the class AuditDatePicker in the TypeScript file Index.ts and the style sheet DatePicker.css.
You need to define the component to be available only for relevant fields and its properties when used in a form.

How should you complete the manifest? To answer, select the appropriate options in the answer area.
NOTE: Each correct selection is worth one point.
Hot Area:

Exhibit A:

Answer Area

```
<?xml version= "1.0" encoding= "utf-8"?>
<manifest>
    <control namespace= "delegate" constructor= [ Index.ts | DatePicker.css | AuditDatePicker ]
 version= "1.0.0" display-name-key= "Date Picker" description-key= "Date of Birth
 Date Picker that validates if a minor" control-type= "standard">
      <property name= "value" display-name-key= "Value" description-key= "Value" of-
 type= [ Enum | DateandTime.DateandTime | DateandTime.DateOnly ] usage= [ bound | input ]
 required= "true" />
      <resources>
           <code path= "Index.ts" order= "1"/>
               <css path= "css/DatePicker.css" order= "1" />
           </resources>
         </control>
      </manifest>
```

Exhibit B:

Answer Area

```
<?xml version= "1.0" encoding= "utf-8"?>
<manifest>
    <control namespace= "delegate" constructor= [ Index.ts | DatePicker.css | AuditDatePicker ]
 version= "1.0.0" display-name-key= "Date Picker" description-key= "Date of Birth
 Date Picker that validates if a minor" control-type= "standard">
      <property name= "value" display-name-key= "Value" description-key= "Value" of-
 type= [ Enum | DateandTime.DateandTime | DateandTime.DateOnly ] usage= [ bound | input ]
 required= "true" />
      <resources>
           <code path= "Index.ts" order= "1"/>
               <css path= "css/DatePicker.css" order= "1" />
           </resources>
         </control>
      </manifest>
```

A. Please refer to Exhibit B for the answer.

Answer(s): A

Explanation:
Box 1: AuditDatePicker
Constructor: Constructor of the code component. Box 2:DateandTime.DateOnly

Box 3: bound
usage: Has two properties, bound and input. Bound properties are bound only to the value of the field. Input properties are either bound to a field or allow a static value.

Reference:
https://docs.microsoft.com/en-us/powerapps/developer/component-framework/manifest-schema-reference/manifest
https://docs.microsoft.com/en-us/powerapps/developer/component-framework/implementing-controls-using-typescript

QUESTION: 3
DRAG DROP
An organization has a Dynamics 365 Sales environment. You need to create a Power Apps component.
Which three actions should you perform in sequence? To answer, move the appropriate actions from the list of actions to the answer area and arrange them in the correct order.
Select and Place:

Exhibit A:

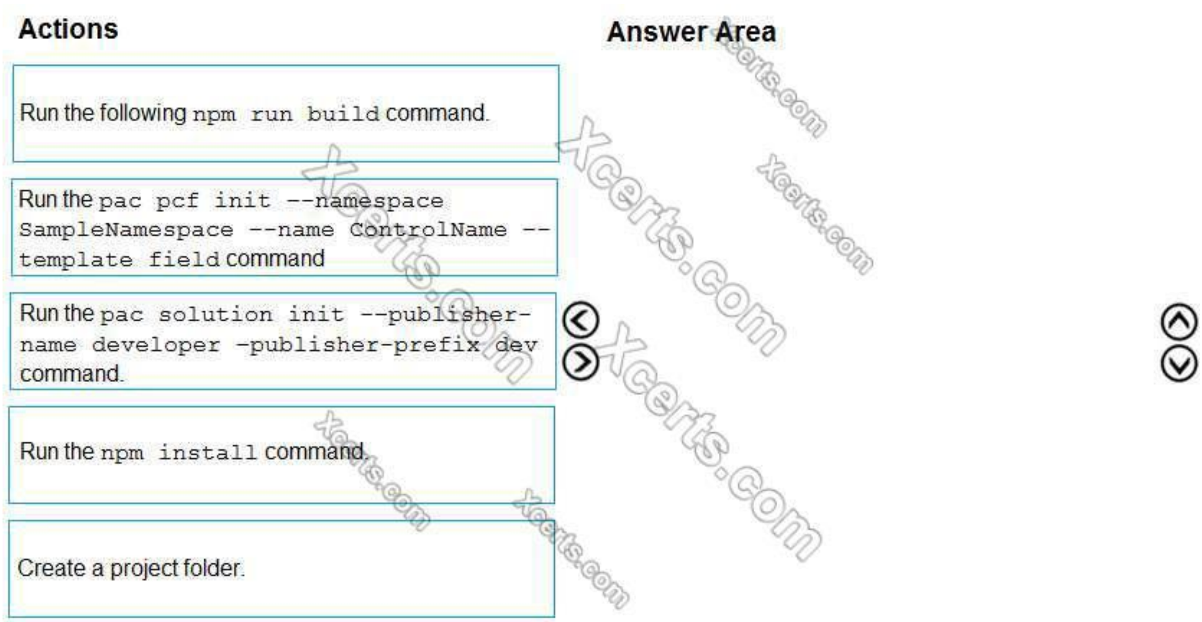
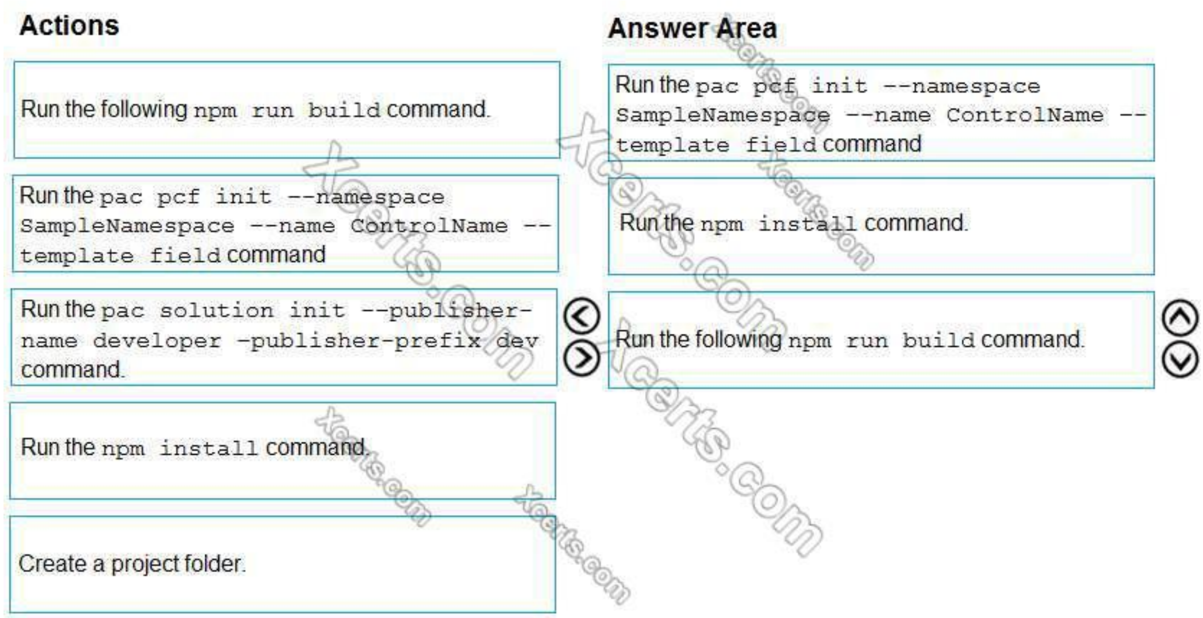


Exhibit B:



A. Please refer to Exhibit B for the answer.

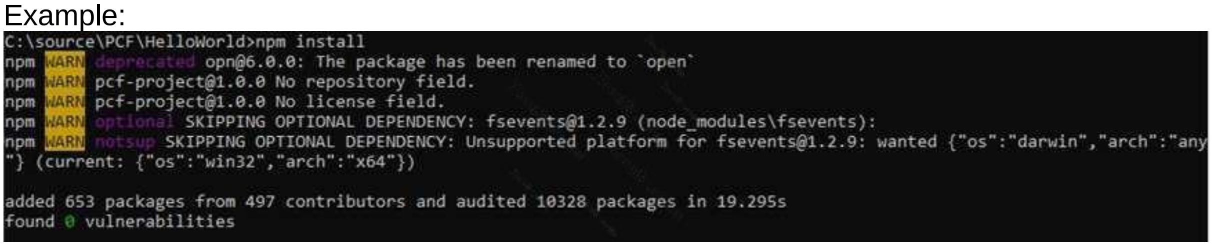
Answer(s): A

Explanation:
Step 1: Run pac pcf init –namespace ..
This is the first command which creates basic folder structure of PCF control project. Run the following command to create the control. The format of the control is:

pac pcf init –namespace <specify your namespace here> –name <put component name here> –template
<component type>

Step 2: Run the npm install command Install Dependencies
Once 'init' sets up the basic folder, as a next step install all the PCF control dependencies using 'npm install' command.

Example:



Now at this point, there is nothing we have actually created. However, the solution created contains sample PCF control code.

Step 3: Run the following np run build command Build PCF Component.
Once you implement the PCF component, build the code for any syntax errors.
Syntax:
npm run build

```
> pcf-scripts build

[17:54:6] [build]  Initializing...
[17:54:6] [build]  Validating manifest...
[17:54:6] [build]  Validating control...
[17:54:6] [build]  Generating manifest types...
[17:54:6] [build]  Compiling and bundling control...
[Webpack stats]:
Hash: 7836f673449072fa8d61
Version: webpack 4.28.4
Time: 1153ms
Built at: 10/02/2019 5:54:08 PM
    Asset      Size  Chunks             Chunk Names
bundle.js  6.34 KiB    main  [emitted]  main
Entrypoint main = bundle.js
[./HelloWorld/index.ts] 2.34 KiB {main} [built]
[17:54:8] [build]  Generating build outputs...
[17:54:8] [build]  Succeeded
```

Reference:
https://rajeevpentyala.com/2020/03/21/power-apps-component-framework-pcf-demystify/
https://carldesouza.com/creating-a-custom-component-using-the-powerapps-component-framework/

QUESTION: 4
A company is creating a Power Apps portal to collaborate with vendors.
You need to implement custom functionality in the portal by using JavaScript code.
Which two portal entities can you use? Each correct answer presents a complete solution.
NOTE: Each correct selection is worth one point.

A. Web pages
B. Web resources
C. Webforms
D. Entity lists

Answer(s): C, D

Explanation:
C: The Web Form Step record contains a field named Custom JavaScript that can be used to store JavaScript code to allow you to extend or modify the form's visual display or function.
D: You can add custom Javascripts to Entity lists.

Reference:
https://docs.microsoft.com/en-us/powerapps/maker/portals/configure/add-custom-javascript
https://docs.microsoft.com/en-us/powerapps/maker/portals/configure/entity-lists#add-custom-javascript

QUESTION: 5
HOTSPOT

You need to develop a set of Web API's for a company.
What should you implement? To answer, select the appropriate options in the answer area.
NOTE: Each correct selection is worth one point.
Hot Area:

Exhibit A:

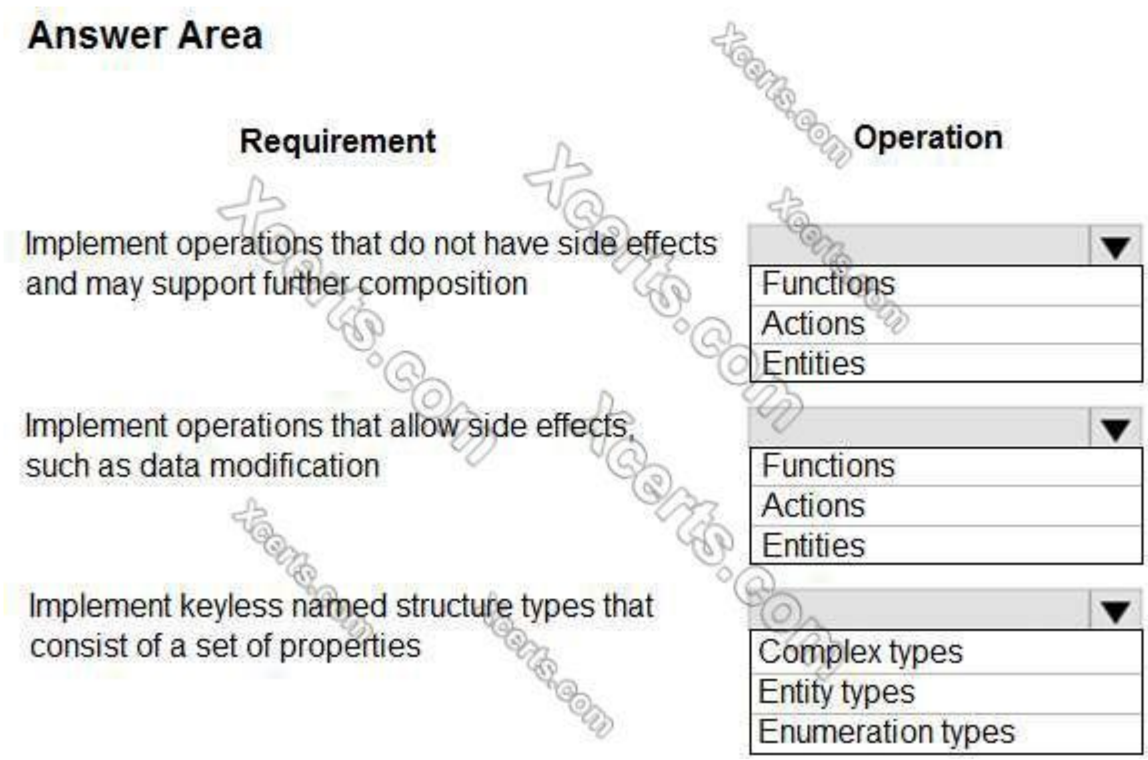
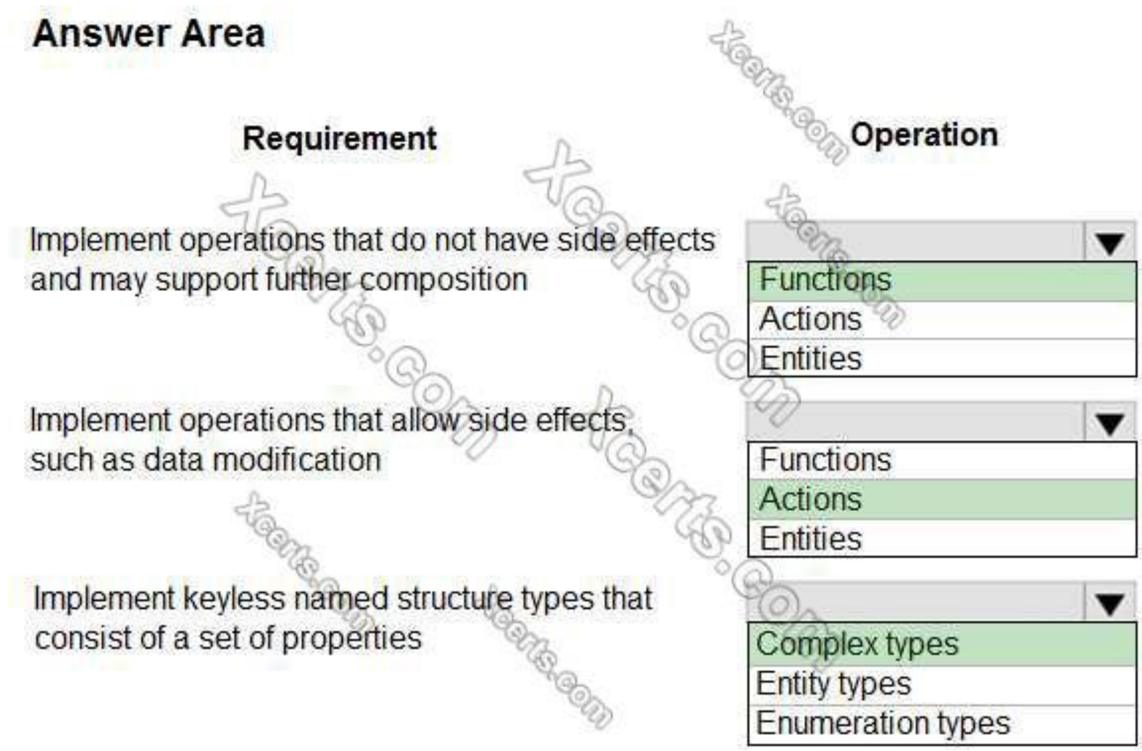


Exhibit B:



A. Please refer to Exhibit B for the answer.

Answer(s): A

Explanation:
Box 1: Functions
most functions and services that are stateless and do not have side effects.

Box 2: Actions
Actions can have side effects.
Box 3: Complex types

Reference:
https://docs.microsoft.com/en-us/powerapps/developer/common-data-service/webapi/use-web-api-actions

QUESTION: 6
You are developing an app that uses Common Data Service.
You must integrate Common Data Service with a new web application. You must allow the new web application to display data from Common Data Service.
You build a single-page web application using the Web API. You need to authenticate your app using OAuth.
What should you use?

A. Windows Communication Foundation (WCF)
B. Cross-Origin Resource Sharing (CORS)
C. Microsoft Authentication Library (MSAL)

D. Kerberos authentication
E. Active Directory Authentication Library (ADAL)

Answer(s): D

Explanation:
OAuth requires an identity provider for authentication. For Dataverse the identity provider is Azure Active Directory (AAD). To authenticate with AAD using a Microsoft work or school account, use the Azure Active Directory Authentication Libraries (ADAL).

Reference:
https://docs.microsoft.com/en-us/powerapps/developer/common-data-service/authenticate-oauth

QUESTION: 7
HOTSPOT
You need to use the Dynamics 365 Sales Web API to retrieve metadata information.

How should you complete the Web API queries? To answer, select the appropriate options in the answer area.
NOTE: Each correct selection is worth one point.
Hot Area:

Exhibit A:

Answer Area

Metadata item	Web API query
Entity	GET /api/data/v9.0/EntityDefinitions([dropdown] = 'account')
Attribute	GET /api/data/v9.0/EntityDefinitions([dropdown] = 'account')/Attributes(LogicalName=telephone1)
Relationship	GET /api/data/v9.0/RelationshipDefinitions([dropdown] = 'Account_Tasks')
Global Option Set	GET /api/data/v9.0/GlobalOptionSetDefinitions([dropdown] = 'metric_goaltype')

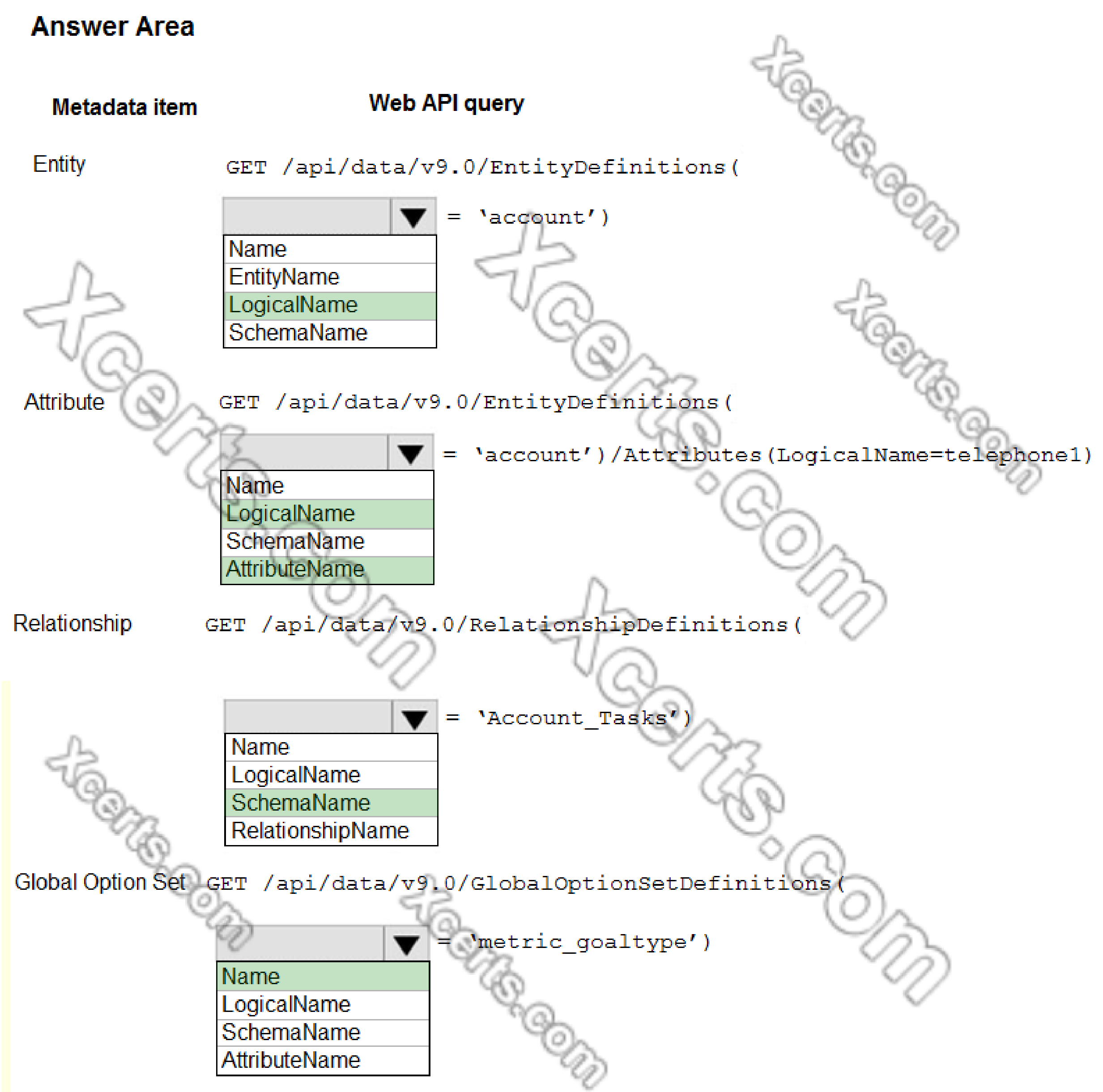
Entity dropdown options:
- Name
- EntityName
- LogicalName
- SchemaName

Attribute dropdown options:
- Name
- LogicalName
- SchemaName
- AttributeName

Relationship dropdown options:
- Name
- LogicalName
- SchemaName
- RelationshipName

Global Option Set dropdown options:
- Name
- LogicalName
- SchemaName
- AttributeName

Exhibit B:



A. Please refer to Exhibit B for the answer.

Answer(s): A

Explanation:
Entity: LogicalName
Querying the EntityMetadata entity type:
GET [Organization URI]/api/data/v9.0/EntityDefinitions(LogicalName='account')

Attribute: LogicalName Retrieving attributes:
GET [Organization URI]/api/data/v9.0/EntityDefinitions(LogicalName='account')/Attributes(

Relationship: SchemaName Querying relationship metadata:

Entity relationships can also be queried using the RelationshipDefinitions entity set. You can use a query like the following to get the SchemaName property for every relationship.

GET [Organization URI]/api/data/v9.0/RelationshipDefinitions?$select=SchemaName

Global Option Set: Name Querying Global OptionSets:
GET /api/data/v9.0/GlobalOptionSetDefinitions(Name='metric_goaltype')

Note: Retrieving items by name is generally easier because you probably already have some reference to the metadata item name in your code. The following table lists the alternate key properties for retrieving metadata items by name.

Metadata item	Alternate Key	Example
Entity	LogicalName	`GET /api/data/v9.0/EntityDefinitions(LogicalName='account')`
Attribute	LogicalName	`GET /api/data/v9.0/EntityDefinitions(LogicalName='account')/Attributes(LogicalName='emailaddress1')`
Relationship	SchemaName	`GET /api/data/v9.0/RelationshipDefinitions(SchemaName='Account_Tasks')`
Global Option Set	Name	`GET /api/data/v9.0/GlobalOptionSetDefinitions(Name='metric_goaltype')`

Reference:
https://docs.microsoft.com/en-us/powerapps/developer/data-platform/webapi/query-metadata-web-api

QUESTION: 8
You are creating a custom connector in Power Apps to connect to a third-party application. The definition in the connector must be set so that it is not visible to the end user.
You need to select the appropriate visibility parameter. Which parameter should you use?

A. important
B. none
C. internal
D. advanced

Answer(s): C

Explanation:
Leave the Visibility property set to none. This property for operations and parameters in a logic app or flow has the following options:

- none: displayed normally in the logic app or flow

- advanced: hidden under an additional menu
- internal: hidden from the user
- important: always shown to the user first

Reference:

https://docs.microsoft.com/en-us/connectors/custom-connectors/define-blank

QUESTION: 9
HOTSPOT
A model-driven app has the following JavaScript code. The code is attached to the OnChange event of the Phone (telephone1) field on the Account entity.

```
var telephone = formContext.getAttribute("telephone1").getValue();
if (!telephone) {
      return;
}
var contact = formContext.getAttribute("primarycontactid").getValue();
var data = { "telephone1": telephone }
Xrm.WebApi.updateRecord("contact", contact[0].id, data).then(
      function () {
            Xrm.Navigation.openAlertDialog("Updated");
      },
      function () {
            var errorOptions = { "message": "Not Updated" };
            Xrm.Navigation.openAlertDialog(errorOptions);
      }
)
```

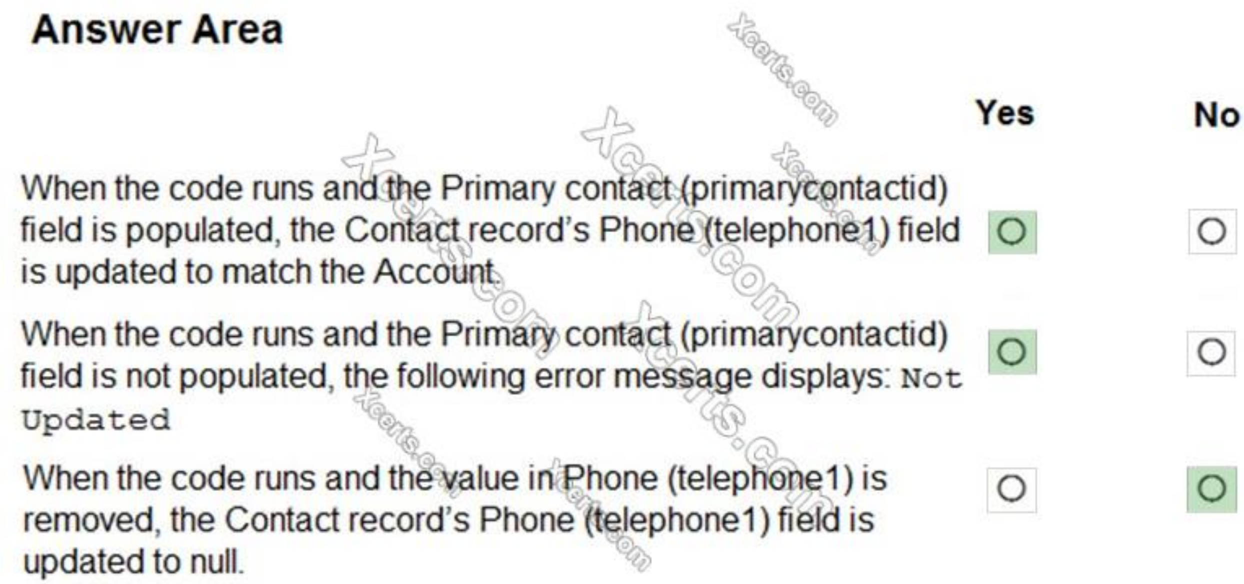
For each of the following statements, select Yes if the statement is true. Otherwise, select No.
NOTE: Each correct selection is worth one point.
Hot Area:

Exhibit A:

Answer Area

	Yes	No
When the code runs and the Primary contact (primarycontactid) field is populated, the Contact record's Phone (telephone1) field is updated to match the Account.	○	○
When the code runs and the Primary contact (primarycontactid) field is not populated, the following error message displays: `Not Updated`	○	○
When the code runs and the value in Phone (telephone1) is removed, the Contact record's Phone (telephone1) field is updated to null.	○	○

Exhibit B:



Answer Area

	Yes	No
When the code runs and the Primary contact (primarycontactid) field is populated, the Contact record's Phone (telephone1) field is updated to match the Account.	◉	○
When the code runs and the Primary contact (primarycontactid) field is not populated, the following error message displays: `Not Updated`	◉	○
When the code runs and the value in Phone (telephone1) is removed, the Contact record's Phone (telephone1) field is updated to null.	○	◉

A. Please refer to Exhibit B for the answer.

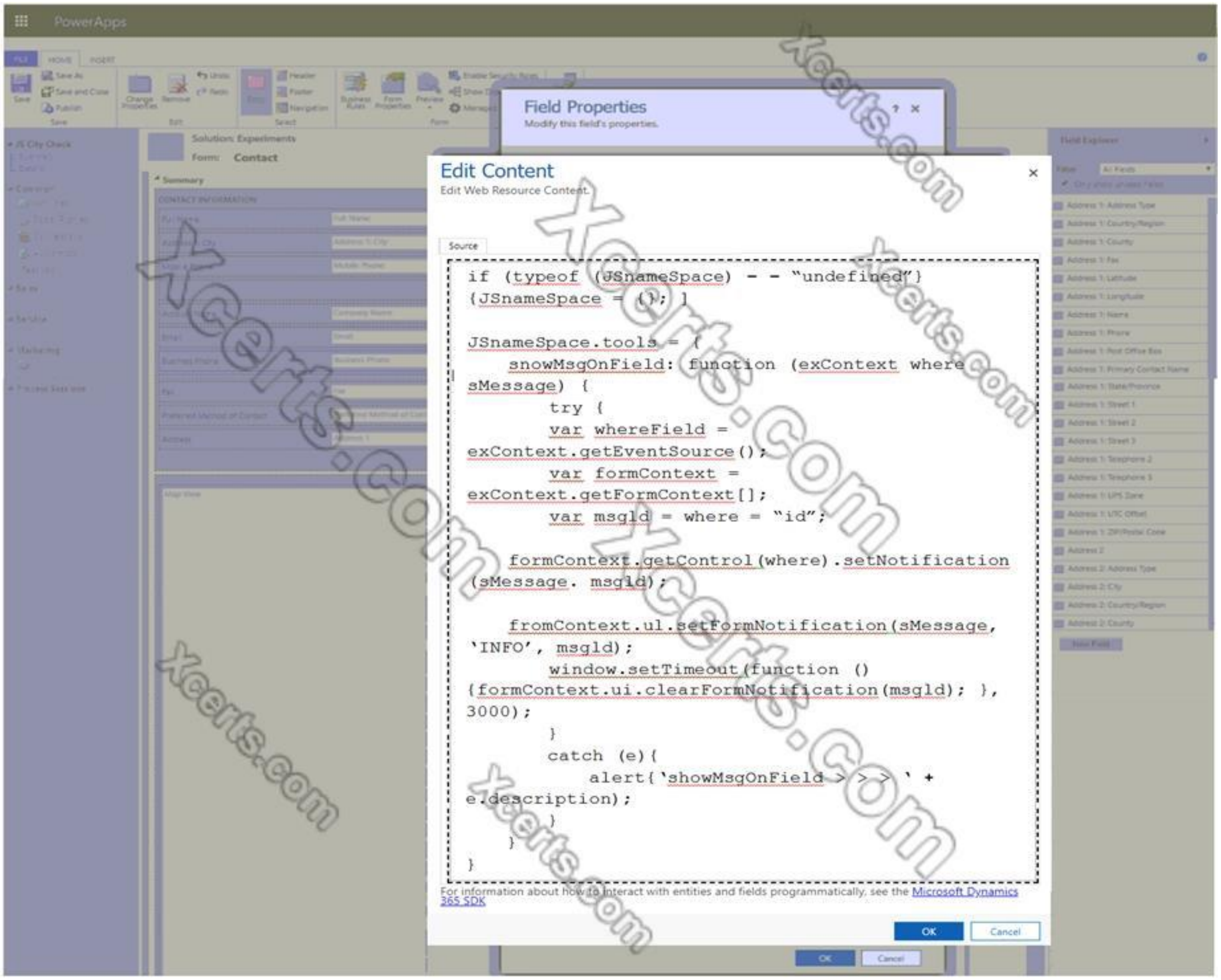
Answer(s): A

Explanation:
Box 1: Yes
Xrm.WebApi.updateRecord updates a table record.

Syntax:
Xrm.WebApi.updateRecord(entityLogicalName, id, data).then(successCallback, errorCallback);
Box 2: Yes
Box 3: No
No action would be taken.

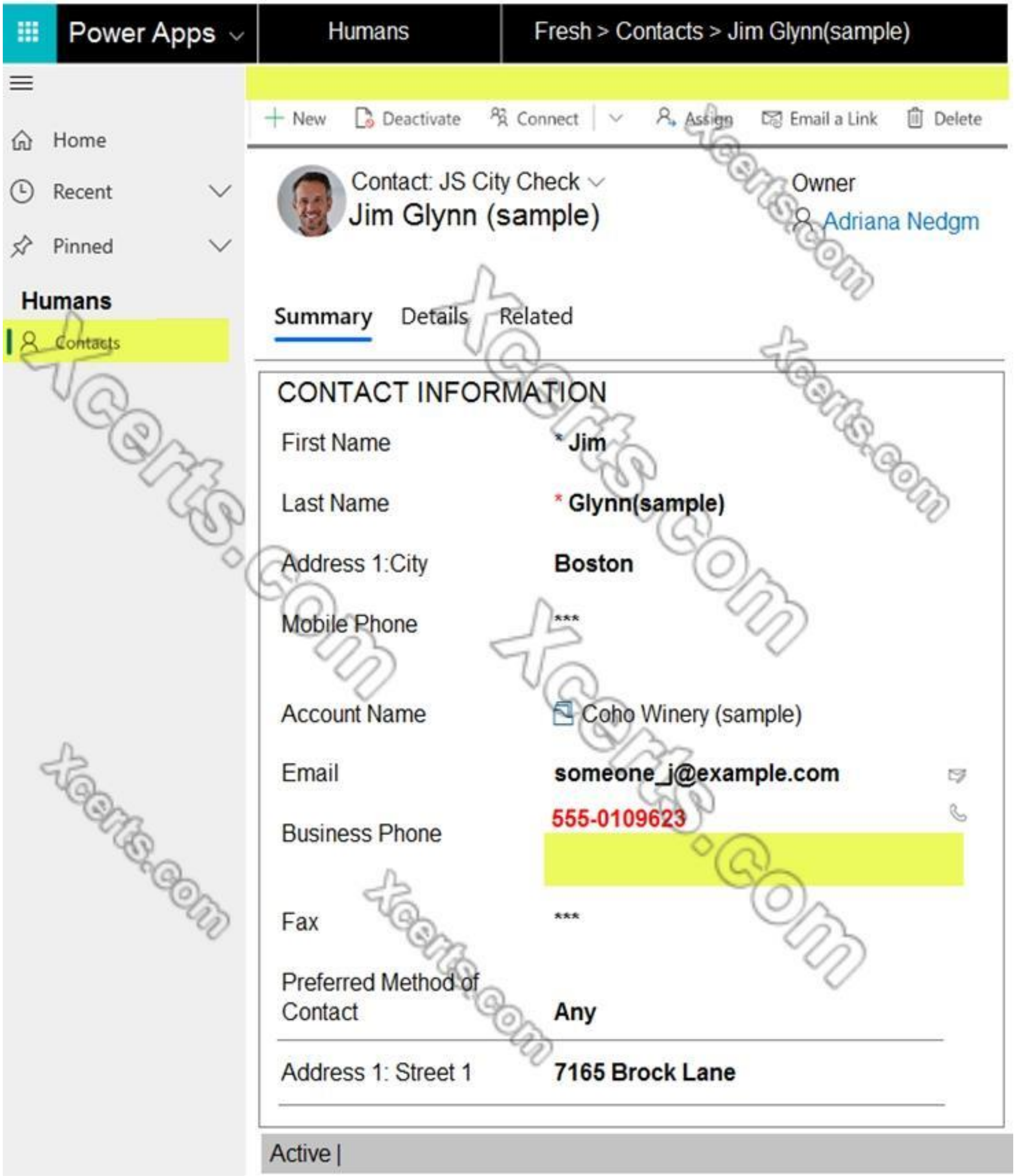
Reference:
https://docs.microsoft.com/en-us/powerapps/developer/model-driven-apps/clientapi/reference/xrm-webapi/ updaterecord

QUESTION: 10
HOTSPOT
A JavaScript function on a Contact form alerts users to what they need to type, as shown in the JavaScript Code exhibit. (Click the JavaScript Code tab.)



The Business Phone field has the OnChange event handler defined as shown in the Event Handler exhibit. (Click the Event Handler tab.)

Users report that there is incorrect wording on the Contact page, as shown in the Contact exhibit. (Click the Contact tab.)

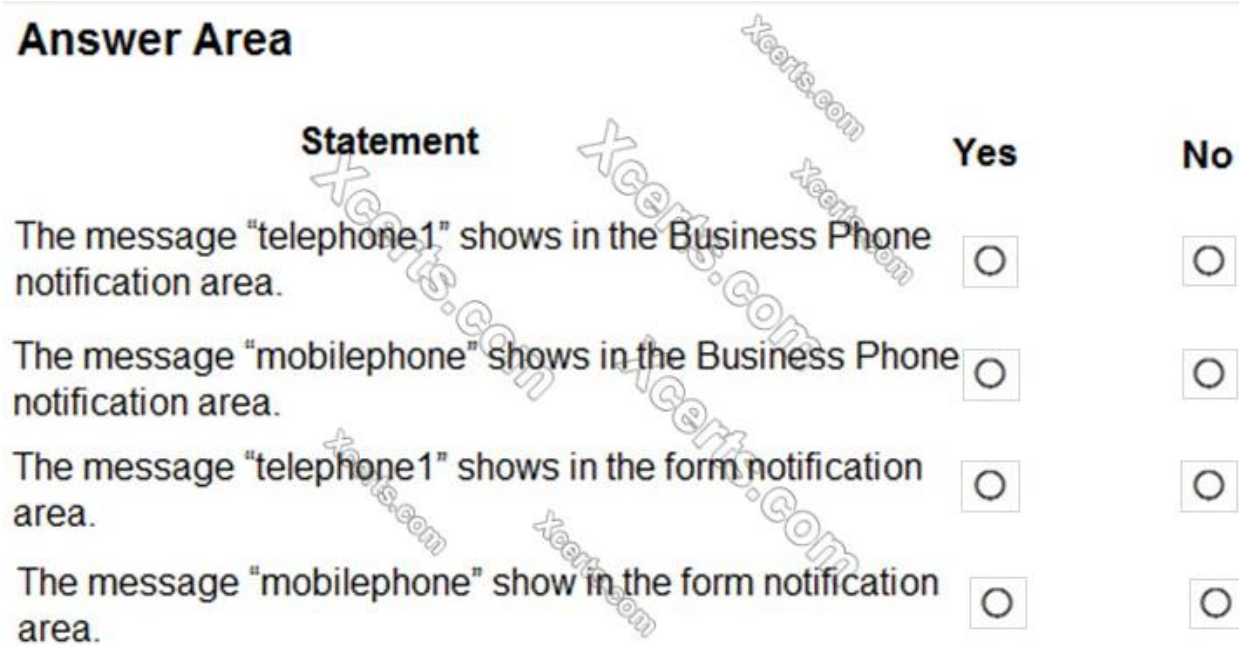


You need to determine what happens when a user modifies the business phone of a contact record.

For each of the following statements, select Yes if the statement is true. Otherwise, select No.
NOTE: Each correct selection is worth one point.

Hot Area:

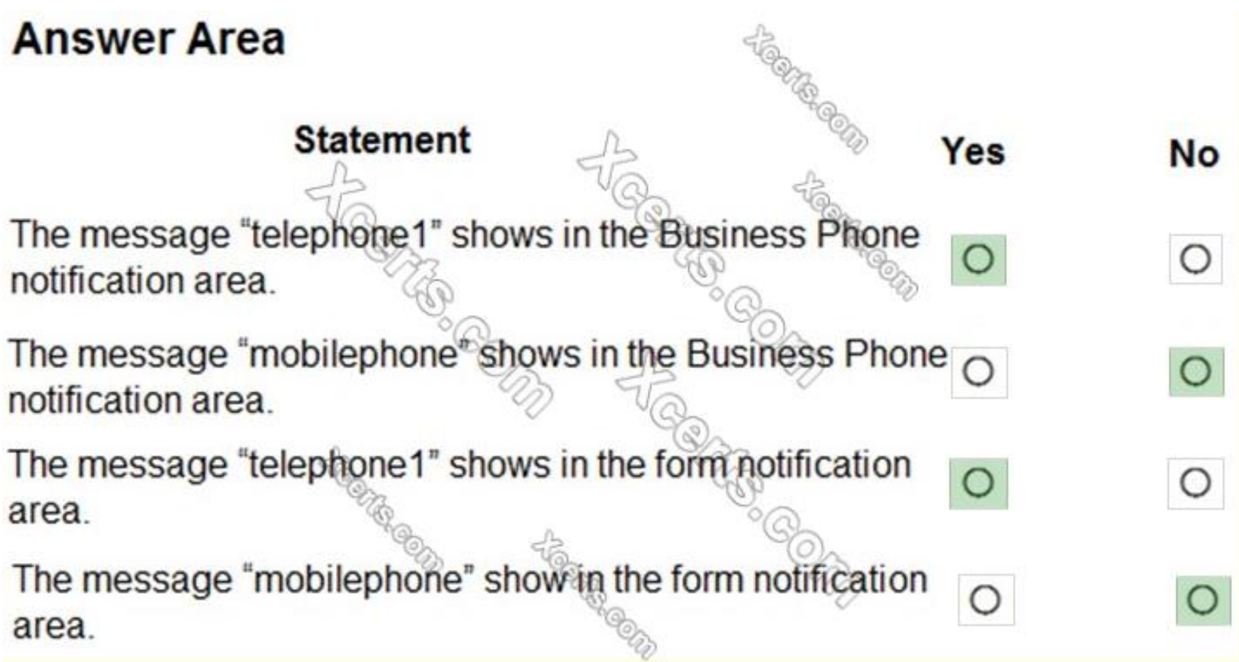
Exhibit A:



Answer Area

Statement	Yes	No
The message "telephone1" shows in the Business Phone notification area.	○	○
The message "mobilephone" shows in the Business Phone notification area.	○	○
The message "telephone1" shows in the form notification area.	○	○
The message "mobilephone" show in the form notification area.	○	○

Exhibit B:



Answer Area

Statement	Yes	No
The message "telephone1" shows in the Business Phone notification area.	○	○
The message "mobilephone" shows in the Business Phone notification area.	○	○
The message "telephone1" shows in the form notification area.	○	○
The message "mobilephone" show in the form notification area.	○	○

A. Please refer to Exhibit B for the answer.

Answer(s): A

Explanation:
Box 1: Yes

setNotification displays an error message for the control to indicate that data isn't valid. When this method is used, a red "X" icon appears next to the control. On Dynamics 365 mobile clients, tapping on the icon will display the message.

Syntax: formContext.getControl(arg).setNotification(message,uniqueId); Box 2: No
Box 3: Yes
setFormNotification displays form level notifications. You can display any number of notifications and they will be displayed until they are removed using clearFormNotification.

Syntax: formContext.ui.setFormNotification(message, level, uniqueId); Box 4: No

Reference:
https://docs.microsoft.com/en-us/powerapps/developer/model-driven-apps/clientapi/reference/formcontext-ui/ setformnotification

https://docs.microsoft.com/en-us/powerapps/developer/model-driven-apps/clientapi/reference/controls/ setnotification

QUESTION: 11
A client requires that the system send an email from a button on their customer contact form. You need to call the action from JavaScript.
Which two functions achieve this result? Each correct answer presents a complete solution.
NOTE: Each correct selection is worth one point.

A. Xrm.WebApi.online.executeMultiple()
B. Xrm.WebApi.online.updateRecord()
C. Xrm.WebApi.online.createRecord()
D. Xrm.WebApi.online.execute()

Answer(s): A, D

Explanation:
Xrm.WebApi.online.executeMultiple executes a collection of action, function, or CRUD operations. Xrm.WebApi.online.execute executes a single action, function, or CRUD operation.

Reference:
https://docs.microsoft.com/en-us/powerapps/developer/model-driven-apps/clientapi/reference/xrm-webapi/online/executemultiple
https://docs.microsoft.com/en-us/powerapps/developer/model-driven-apps/clientapi/reference/xrm-webapi/ online/execute

QUESTION: 12
A company has two development instances, two test instances, two staging instances, and one production instance.

The test team reports connection issues with the test and staging instances.

You need to identify which of the instances the testing team currently has access. Which two URLs can you use? Each correct answer presents a complete solution. NOTE: Each correct selection is worth one point.

A. https://globaldisco.crm.dynamics.com/api/discovery/v9.1/instances
B. https://myorg.api.crm.dynamics.com/api/data/v9.1/
C. https://dev.crm.dynamics.com/api/discovery/v9.1/instances
D. https://disco.crm.dynamics.com/api/discovery/v9.1/
E. https://dev.crm.dynamics.com/api/discovery/v9.1/instances(UniqueName='myorg')

Answer(s): C, E

Explanation:
Organization information is stored in the Instance entity of the Discovery service. To see the kind of information contained in that entity, send an HTTP GET request to the service for one of your instances.

GET https://dev.{servername}/api/discovery/v9.0/Instances(UniqueName='myorg')

Example: Get the details of a specific instance. If you leave out the GUID, all instances that the authenticated user has access to are returned.
GET https://dev.{servername}/api/discovery/v9.0/Instances(<guid>)

Reference:
https://docs.microsoft.com/en-us/dynamics365/customerengagement/on-premises/developer/webapi/discover- url-organization-web-api

QUESTION: 13
You are a Dynamics 365 developer working on a model-driven app.

You add a button to an entity form and to the view for the entity that calls a JavaScript function. When you click the button, it results in an error.

You determine that the JavaScript function is calling another JavaScript function in a different web resource. You need to resolve the error.
What should you do?

A. In the JavaScript web resource, add the missing web resource as a dependency.
B. Add &ribbondebug=true to the app URL and run the Command Checker tool.
C. From the Ribbon Workbench, add the missing JavaScript web resource as a CustomRule in EnableRules.

Answer(s): C

Explanation:
When configuring ribbon elements, you can define specific rules to control when the ribbon elements are enabled.

Custom Rule uses the <CustomRule> element. Use this kind of rule to call a function in a Script (JScript) web resource that returns a Promise (Unified Interface) or boolean (Unified Interface and web client).

Reference:
https://docs.microsoft.com/en-us/powerapps/developer/model-driven-apps/define-ribbon-enable-rules

QUESTION: 14
A multinational company requires that all phone numbers be standardized as country code + area code + phone number.

The application design team decides that a custom Power Apps component framework (PCF) control should be used to prompt users for an area code and to correctly format the phone number.

You need to get the list of valid area codes when a contact record is opened and before the user enters a new phone number.

You need to get the list of valid area codes when a contact record is opened and before the user enters a new phone number.

In which function should you call webAPI.retrieveMultipleRecords?

A. updateView
B. notifyOutputChanged
C. getOutputs

Answer(s): A

Explanation:
The updateView method will be called when any value in the property bag has changed. This includes field values, data-sets, global values such as container height and width, offline status, component metadata values such as label, visible, etc.

Incorrect Answers:
notifyOutputChanged is a callback method to alert the framework that the control has new outputs ready to be retrieved asynchronously.

getOutputs is called by the framework prior to a component receiving the new data. Returns an object based on nomenclature defined in manifest, expecting objects[s] for the property marked as bound.

Reference:
https://www.inogic.com/blog/2021/01/what-is-popupservice-in-powerapps-component-framework/

QUESTION: 15
HOTSPOT

You are examining code written by another developer that is not functioning correctly. There are no other JavaScript or business rules in use on the form.

This code is properly registered to the OnChange event of the telephone1 field on an account entity form. The main operation is to update the primary contact's phone number when the account phone number changes.
The primary contact field is a lookup. (Line numbers are included for reference only.)

```
01 function UpdatePrimaryContact(executionContext) {
02  var formContext = executionContext.getFormContext();
03  var formType = formContext.ui.getFormType();
04  if (formType !== 2) {
05   return;
06  }
07  var data =
08  {
09   "telephone1": formContext.getAttribute("telephone1").getValue()
10  }
11  var primaryContact = formContext.getAttribute("primarycontactid").getValue();
12  Xrm.WebApi.updateRecord("contact", primaryContact[0].id, data).then(
13   function success() {
14    ...
15    Xrm.Navigation.openAlertDialog({ text: "Updated" });
16   },
17   function fail() {
18    Xrm.Navigation.openErrorDialog({ message: "Error" });
19   }
20  );
21  Xrm.Navigation.openAlertDialog({ text: "Done" });
22 }
```

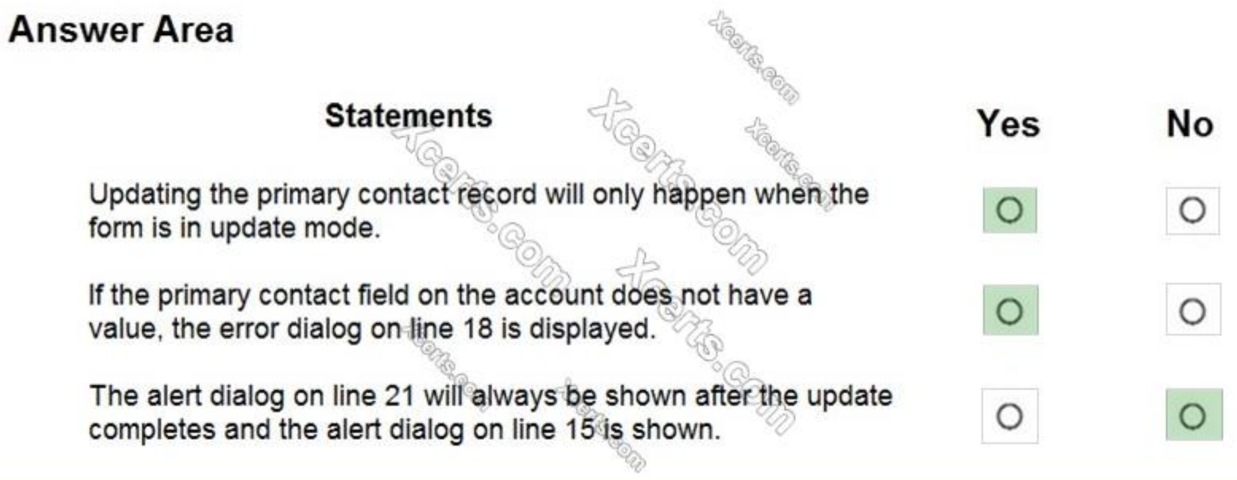
For each of the following statements, select Yes if the statement is true. Otherwise, select No.
NOTE: Each correct selection is worth one point.
Hot Area:

Exhibit A:

Answer Area

Statements	Yes	No
Updating the primary contact record will only happen when the form is in update mode.	○	○
If the primary contact field on the account does not have a value, the error dialog on line 18 is displayed.	○	○
The alert dialog on line 21 will always be shown after the update completes and the alert dialog on line 15 is shown.	○	○

Exhibit B:



Answer Area

Statements	Yes	No
Updating the primary contact record will only happen when the form is in update mode.	●	○
If the primary contact field on the account does not have a value, the error dialog on line 18 is displayed.	●	○
The alert dialog on line 21 will always be shown after the update completes and the alert dialog on line 15 is shown.	○	●

A. Please refer to Exhibit B for the answer.

Answer(s): A

Explanation:
Box 1: Yes
getFormTyp gets the form type for the record. Form type 2 is Update.
Note: Syntax: formContext.ui.getFormType(); Return Value
Type: Number

Description: Form type. Returns one of the following values

RETURN VALUE
Value Form type
0 Undefined
1 Create
2 Update
3 Read Only
4 Disabled
6 Bulk Edit

Box 2: Yes
Xrm.WebApi.updateRecord Return Value: On success, returns a promise object containing the values specified earlier in the description of the successCallback parameter.

Note:
Syntax: Xrm.WebApi.updateRecord(entityLogicalName, id, data).then(successCallback, errorCallback); Where errorCallback: A function to call when the operation fails. An object with the following properties will be passed:
errorCode: Number. The error code.
message: String. An error message describing the issue.

Box 3: No

It will displayed even if the update fails.

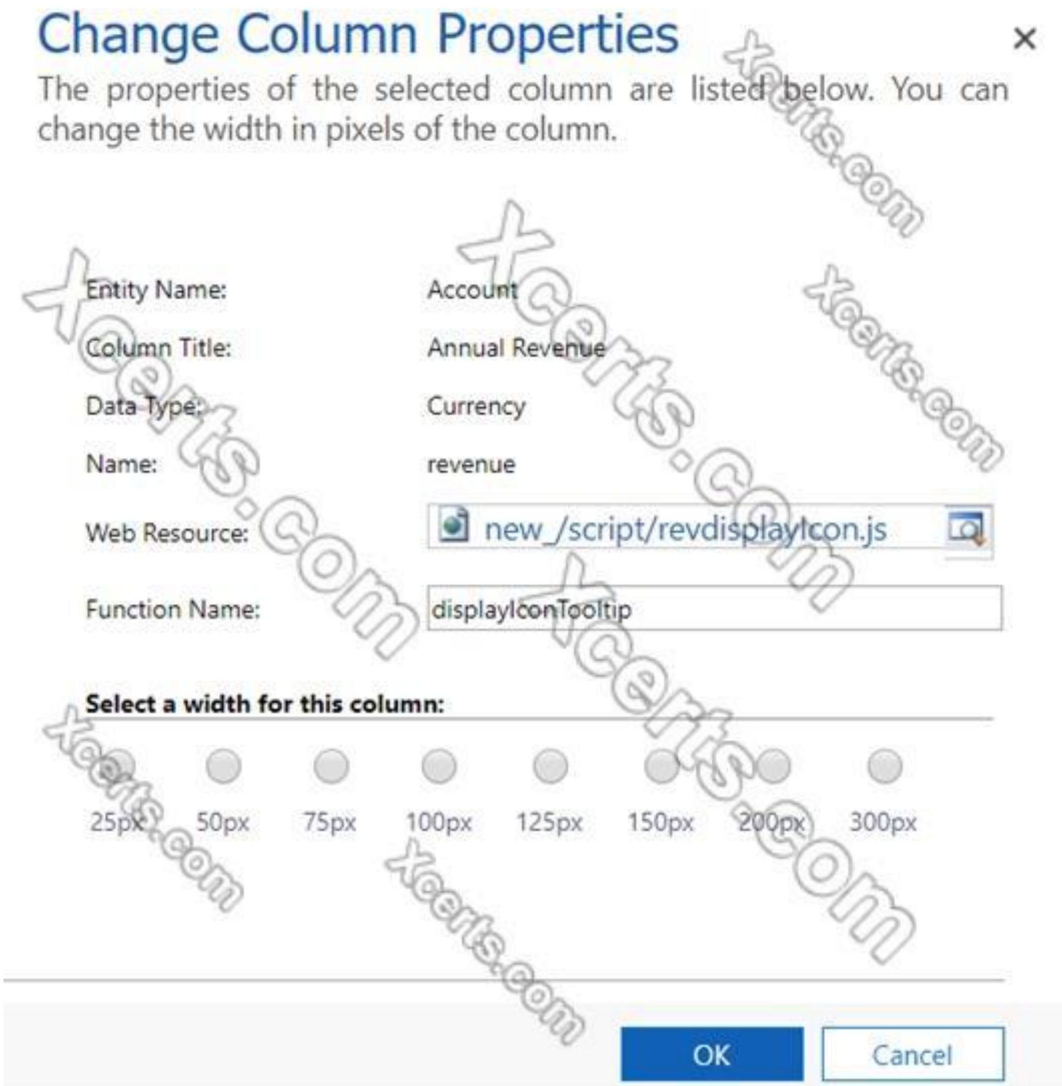
Reference:
https://docs.microsoft.com/en-us/powerapps/developer/model-driven-apps/clientapi/reference/formcontext-ui/ getformtype

https://docs.microsoft.com/en-us/powerapps/developer/model-driven-apps/clientapi/reference/xrm-webapi/ updaterecord

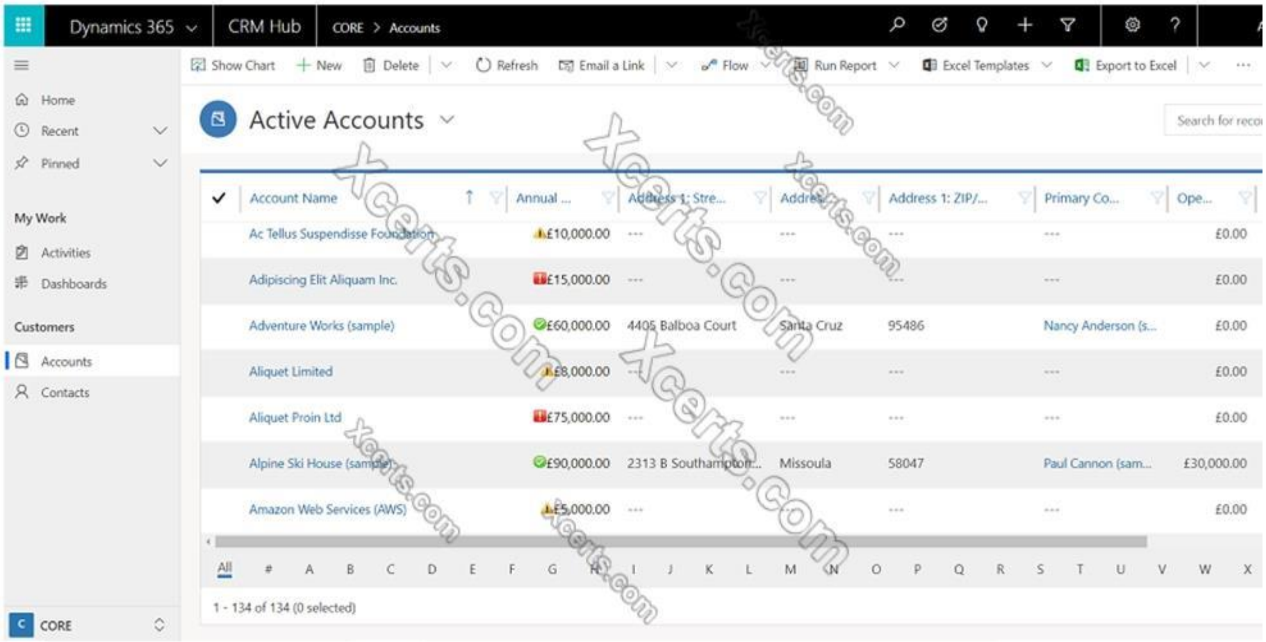
QUESTION: 16
HOTSPOT
You have the following JavaScript function: (Line numbers are included for reference only.)

```
01 function displayIconTooltip(rowData, userLCID)
02 {
03 var imgName = "";
04 var tooltip = "Relationship Health";
05 var str = JSON.parse(rowData);
06 var prevrev = str.new_previousyearannualrevenue_Value;
07 var rev = str.revenue_Value;
08 var health = parseFloat(rev) - parseFloat(prevrev);
09 if (health > 0)
10    imgName = "new_good";
11 else if (health == 0)
12    imgName = "new_warm";
13 else
14    imgName = "new_bad";
15 var resultarray = [imgName, tooltip];
16 return resultarray;
17 }
```

The Annual Revenue view column is configured to call the function as shown in the Column Properties exhibit. (Click the Change Column Properties tab.)



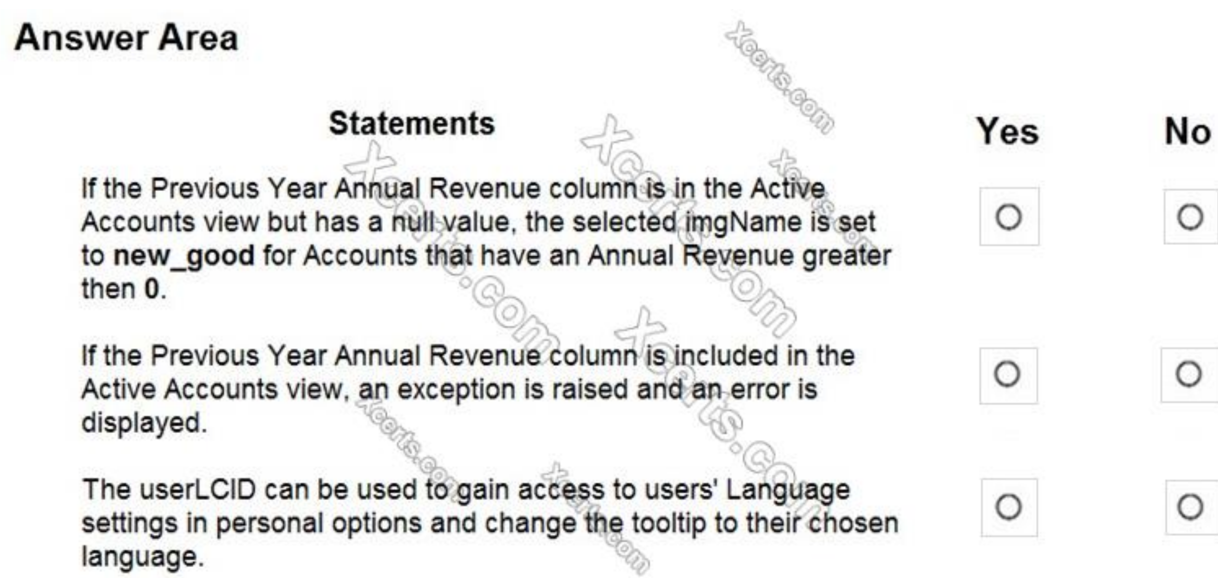
Users report that the icons that appear in the Active Accounts view are incorrect, as shown in the Active Accounts View exhibit. (Click the Active Accounts View tab.)



You need to determine why the incorrect icons are being displayed.

For each of the following statements, select Yes if the statement is true. Otherwise, select No.
Hot Area:

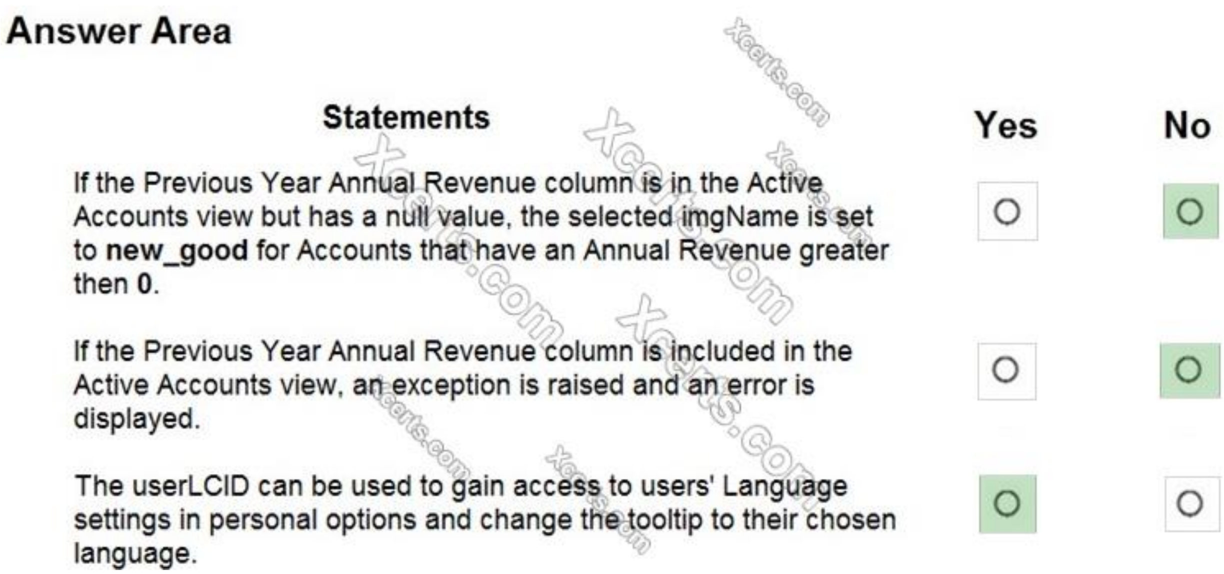
Exhibit A:



Answer Area

Statements	Yes	No
If the Previous Year Annual Revenue column is in the Active Accounts view but has a null value, the selected imgName is set to **new_good** for Accounts that have an Annual Revenue greater then **0**.	O	O
If the Previous Year Annual Revenue column is included in the Active Accounts view, an exception is raised and an error is displayed.	O	O
The userLCID can be used to gain access to users' Language settings in personal options and change the tooltip to their chosen language.	O	O

Exhibit B:



Answer Area

Statements	Yes	No
If the Previous Year Annual Revenue column is in the Active Accounts view but has a null value, the selected imgName is set to **new_good** for Accounts that have an Annual Revenue greater then **0**.	O	O
If the Previous Year Annual Revenue column is included in the Active Accounts view, an exception is raised and an error is displayed.	O	O
The userLCID can be used to gain access to users' Language settings in personal options and change the tooltip to their chosen language.	O	O

A. Please refer to Exhibit B for the answer.

Answer(s): A

Explanation:
Box 1: No
parseFloat will return 'NaN' if it's not a number (null and undefined are NaNs). Box 2: No
Box 3: Yes
Session.userLCID is the Locale ID for the ASP application.

Reference:
https://support.microsoft.com/en-us/help/229690/how-to-set-the-asp-locale-id-per-the-browser-s-language-settings

QUESTION: 17
HOTSPOT
You develop the following JavaScript code for a web resource that will be used in a model-driven app.

```
function CheckAccountRating(executionContext) {
    var formContext = executionContext.getFormContext();
    var baseUrl = Xrm.Utility.getGlobalContext();
    var id = formContext.data.entity.getId();
    var url = baseUrl + "/api/data/v9.1/accounts(" + id + ")?$select=accountratingcode"

    var req = new XMLHttpRequest();
    req.open("GET", url, false);
    req.setRequestHeader("OData-MaxVersion", "4.0");
    req.setRequestHeader("OData-Version", "4.0");
    req.setRequestHeader("Accept", "application/json");
    req.setRequestHeader("Content-Type", "application/json; charset=utf-8");
    req.onreadystatechange = function () {
        if (this.readyState === 4) {
            req.onreadystatechange = null;
            if (this.status === 200) {
                var result = JSON.parse(this.response);
                if (result["accountratingcode"] == 4) {
                    alert("Test");
                }
            }
        }
    };
    req.send();
}
```

For each of the following statements, select Yes if the statement is true. Otherwise, select No.
NOTE: Each correct selection is worth one point.
Hot Area:

Exhibit A:

Answer Area

	Yes	No
The code raises the following exception: Interact with HTTP and HTTPS resources asynchronously (web-use-async).	○	○
The code raises the following exception: Use strict equality operators (web-use-strict-equality-operators).	○	○
The code raises the following exception: Avoid including debug script in non-development environments (web-remove-debug-script).	○	○

Exhibit B:

Answer Area

	Yes	No
The code raises the following exception: Interact with HTTP and HTTPS resources asynchronously (web-use-async).	☒	☐
The code raises the following exception: Use strict equality operators (web-use-strict-equality-operators).	☐	☒
The code raises the following exception: Avoid including debug script in non-development environments (web-remove-debug-script).	☐	☒

A. Please refer to Exhibit B for the answer.

Answer(s): A

Explanation:
Box 1: Yes
Problem patterns: Web-use-async
There are multiple ways to interact with the server or request resources. Common approaches that allow for synchronous communications include the following (These scenarios should be avoided.):

- Usage of the XMLHttpRequest object passing in false for the value of the async parameter for the open function call

var requestXhr = new XMLHttpRequest();

// Explicitly setting the async parameter to false or supplying a variable with a value of false will force this as a synchronous call.
requestXhr.open('GET', '/test/test.txt', false);

Box 2: No
=== - Strict Equality Comparison is already used in the code.

Box 3: No
No debugger statement in the code, so web-remove-debug-script (avoid including debug script in non- development environments) does not apply.

Reference:
https://docs.microsoft.com/sr-cyrl-rs/powerapps/developer/model-driven-apps/best-practices/business-logic/ interact-http-https-resources-asynchronously
https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference/Operators/Strict_equality

Exam Topic: Extend the platform

Testlet 1

Case study
This is a case study. Case studies are not timed separately. You can use as much exam time as you would like to complete each case. However, there may be additional case studies and sections on this exam. You must manage your time to ensure that you are able to complete all questions included on this exam in the time provided.

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At the end of this case study, a review screen will appear. This screen allows you to review your answers and to make changes before you move to the next section of the exam. After you begin a new section, you cannot return to this section.

To start the case study
To display the first question in this case study, click the Next button. Use the buttons in the left pane to explore the content of the case study before you answer the questions. Clicking these buttons displays information such as business requirements, existing environment, and problem statements. If the case study has an All Information tab, note that the information displayed is identical to the information displayed on the subsequent tabs. When you are ready to answer a question, click the question button to return to the question.

Background
Bellows Sports is the region's newest, largest, and most complete sports complex. The company features baseball and soccer fields and two full-size hockey rinks. The complex provides coaching, recreational leagues, a pro shop, and state-of-the art customer and player amenities.
The company is organized into the following divisions:

- Baseball
- Hockey
- Soccer

Bellow Sports runs tournaments several times per year. Each tournament runs six weeks.

Current environment

Requirements
Bellow Sports tracks players and events in Microsoft Excel workbooks and uses email to communicate with players, partners, and prospective customers. The company uses a proprietary cloud-based accounting system.

The company relies on referrals from athletes for new business. Bellows uses a third-party marketing company to gather feedback and referrals from athletes. The third-party marketing company uploads a Microsoft Excel file containing lists of potential customers and players to the FTP site that Bellows Sports maintains.

Tournaments
Customer information is stored in the Accounts entity. Each tournament record must list the associated sales representative as the tournament owner. When team members create tournament records they must enter the start date for a tournament. The end date of the tournament must be automatically calculated.

Registration form
You must create a form to allow players to register for tournaments. The registration form must meet the following requirements:

Division	Requirement
Baseball	Capture the age and weight of the player. The height field must not display.
Hockey	Capture the age, height, and weight of the player.
Soccer	Capture the age of the player. The height and weight fields must not display.

- Each division has tournaments that take place in specific locations. Users must be able to select the division for a tournament location.
- Information about upcoming tournaments must be pre-located into the registration form when the registration form loads.
- The form must include a custom button that sends an email confirmation to the player after the player registers.
- The button must not be visible until after the form is saved.

Security
The company identifies the following job roles:

Role	Tasks
Sales representative	These users will enter data into Dynamics 365 Customer Service.
Intern	These users will create Power Apps apps, and connectors, and create Power Automate flows.
Manager	These users will add users, assign security roles, and manage data storage.

You must grant users the minimum permissions required to perform their job tasks.

Data automation
- Customer name must be added to Dynamics 365 Finance automatically after it is entered.
- You must produce a report that details the number of registrations for a day and send the report as a PDF to the management team.
- You must implement mechanisms to handle all code-related errors.
- When a customer record is updated, the system must look up the account number for the customer in the accounting system.
- Referrals must be imported into the system as soon as they are available.

Issues Apps
- The captions for the New and Save buttons do not render properly on the form.
- Interns can create apps but cannot interact with their own data.

Portal

The query for all registered users must return the data categorized by division. Queries must return only the Name and Sport fields. Queries return all fields. The query is as follows:

```
GET [Organization URI]/api/data/v9.1/accounts?
&$orderby=Name, sport
&$filter=sport ne null
```

Solution checker issues

You run solution checker and observe Plug-in or workflow activity errors in the following code sets:

Set	Code	Error message
Code set 1	CS101 var columns = new ColumnSet(); CS102 columns.AllColumns = true; CS103 var query = new QueryExpression("account"); CS104 query.ColumnSet = columns; CS105 var results = service.RetrieveMultiple(query);	il-specify-column
Code Set 2	CS201 WebRequest request = WebRequest.Create ("https://www.bellows.com/api/stuff"); CS202 HttpWebResponse response = new HttpWebResponse(); CS203 CS204 respone = request.GetResponse(); CS205 response.Close();	il-turn-off-keepalive

Code

The following code runs when the registration form loads. You must implement a mechanism to handle errors that occur in the code:

```
UpdateRecord.js (Line numbers are included for reference only.)

UR01
UR02 var data =
UR03      {
UR04        "name" : "Updated Account"
            "creditonhold" : true,
            "description" : "This is an account update",
            "revenue" : 10,000,
            "Division" : 2
          }
UR05 . . .
UR06
```

QUESTION: 1
HOTSPOT
You need to correct the portal query issues.

Which code should you use? To answer, select the appropriate options in the answer area.
NOTE: Each correct selection is worth one point.

Hot Area:

Exhibit A:

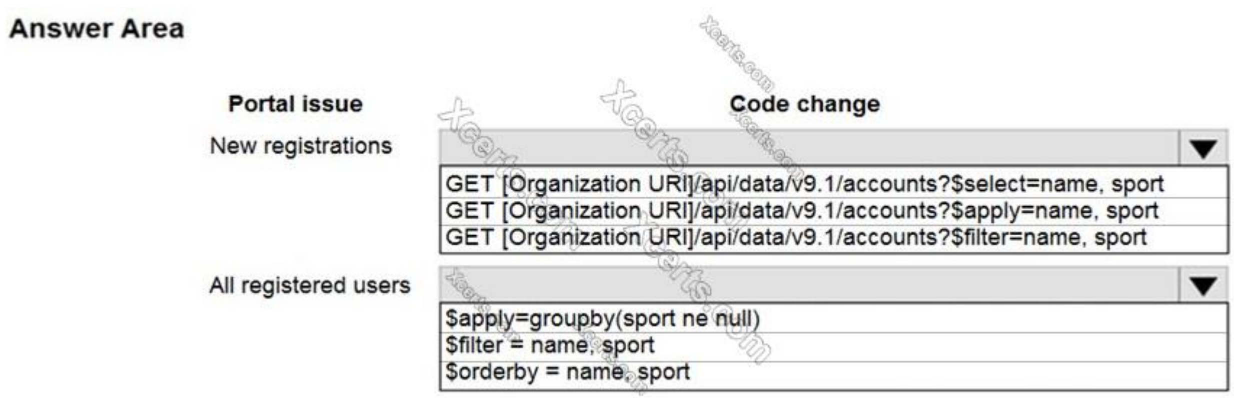
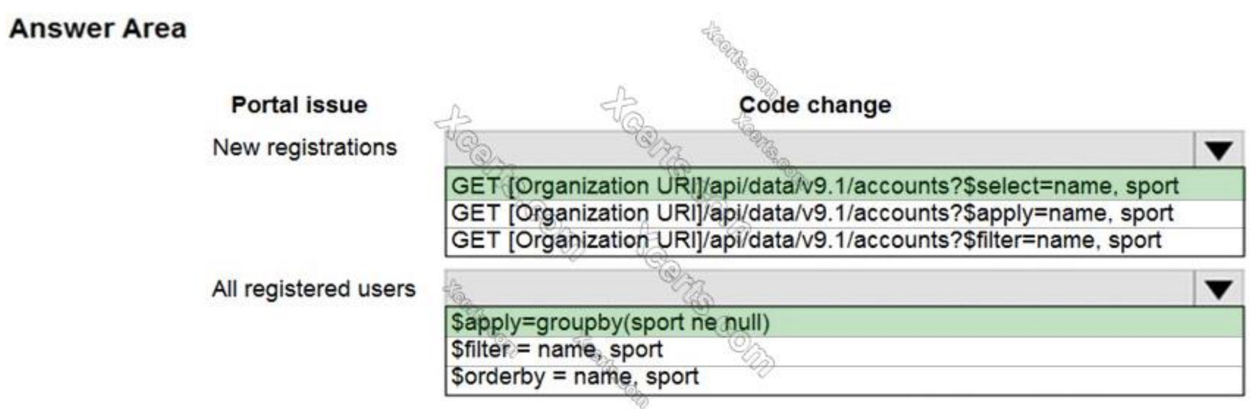


Exhibit B:



A. Please refer to Exhibit B for the answer.

Answer(s): A

Explanation:
Scenario: The query for all registered users must return the data categorized by division.
Queries must return only the Name and Sport fields. Queries return all fields. The query is as follows:

```
GET [Organization URI]/api/data/v9.1/accounts?
&$orderby=Name, sport
&$filter=sport ne null
```

Box 1: GET ..$select=name, sport
Use select to return only the Name and Sport fields.

Box 2: $apply(groupby(sport ne null) Categorize by division, that is to sports.

Exam Topic: Extend the platform

Testlet 2

Case study
This is a case study. Case studies are not timed separately. You can use as much exam time as you would like to complete each case. However, there may be additional case studies and sections on this exam. You must manage your time to ensure that you are able to complete all questions included on this exam in the time provided.

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Background

Current environment
Adventure Works Cycles wants to replace their paper-based bicycle manufacturing business with an efficient paperless solution. The company has one manufacturing plant in Seattle that produces bicycle parts, assembles bicycles, and distributes finished bicycles to the Pacific Northwest.

Adventure Works Cycles has a retail location that performs bicycle repair and warranty repair work. The company has six maintenance vans that repair bicycles at various events and residences.

Adventure Works Cycles recently deployed Dynamics 365 Finance and Dynamics 365 Manufacturing in a Microsoft-hosted environment for financials and manufacturing. The company plans to leverage the Microsoft Power Platform to migrate all of their distribution and retail workloads to Dynamics 365 Unified Operations.

The customer uses Dynamics 365 Sales. Dynamics 365 Customer Service and Dynamics 365 Field Service.

Retail store information
Adventure Works Cycle has one legal entity, four warehouses, and six field service technicians. Warehouse counting is performed manually by using a counting journal. All warehouse boxes and items are barcoded.

- Adventure Works Cycle has one legal entity, four warehouses, and six field service technicians.
- Warehouse counting is performed manually by using a counting journal. All warehouse boxes and items are barcoded.
- The Adventure Works Cycles retail location performs bicycle inspections and performance tune-ups.
- Technicians use paper forms to document the bicycle inspection performed before a tune-up and any additional work performed on the bicycle.
- Adventure Works Cycles uses a Power Apps app for local bike fairs to attract new customers.
- A canvas app is being developed to capture customer information when customers check in at the retail location. The app has the following features:
    - Customer selects yes or no if they are on the mailing list.
    - Customer selects the amount of times they have visited the store.
    - Customer selects the type of service needed.
    - The search result returns all last name records that match the search term.

Technology

Requirements
- A plug-in for Dynamics 365 Sales automatically calculated the total billed time from all activities on a particular customer account, including sales representative visits, phone calls, email correspondence, and repair time compared with hours spent.
- A shipping API displays shipping rates and tracking information on sales orders. The contract allows for 3,000 calls per month.
- Ecommerce orders are processed in batch daily by using a manual import of sales orders in Dynamics 365 Finance.
- Microsoft Teams is used for all collaboration.
- All testing and problem diagnostics are performed in a copy of the production environment.
- Customer satisfaction surveys are recorded with Microsoft Forms Pro. Survey replies from customers are sent to a generic mailbox.

Automation
- A text message must be automatically sent to a customer to confirm an appointment and to notify when a technician is on route that includes their location.

- Ecommerce sales orders must be integrated into Dynamics 365 Finance and then exported to Azure every night.
- A text alert must be sent to employees scheduled to assist in the repair area of the retail store if the number of repair check-ins exceeds eight.
- Submitted customer surveys must generate an email to the correct department. Approval and follow-up must occur within a week.

Reporting

- The warehouse manager's dashboard must contain warehouse counting variance information.
- A warehouse manager needs to quickly view warehouse KPIs by using a mobile device.
- Power BI must be used for reporting across the organization.

User experience

- Warehouse counting must be performed by using a mobile app that scans barcodes on boxes.
- All customer repairs must be tracked in the system no matter where they occur.
- Qualified leads must be collected from local bike fairs.

Issues

- Warehouse counting must be performed by using a mobile app that scans barcodes on boxes.
- All customer repairs must be tracked in the system no matter where they occur.
- Qualified leads must be collected from local bike fairs.

Internal

- User1 reports receives an intermittent plug-in error when viewing the total bill customer time.
- User2 reports that Azure consumption for API calls has increased significantly to 100 calls per minute in the last month.
- User2 reports that sales orders have increased.
- User5 receives the error message: 'Endpoint unavailable' during a test of the technician dispatch ISV solution.
- The parts department manager who is the approver for the department is currently on sabbatical.

External

- CustomerB reports that the check-in app returned only one search result for their last name, which is not the correct name.
- Nine customers arrive in the repair area of the retail store, but no texts were sent to scheduled employees.
- Customers report that the response time from the information email listed on the Adventure Works Cycles website is greater than five days.
- CustomerC requested additional information from the parts department through the customer survey and has not received a response one week later.
-

QUESTION: 1

You need to ensure that Adventure Works Cycles can track information from visitors to bike fairs. What should you create?

A. a Power Automate flow that connects with the bike fair Power Apps app to create a lead in Dynamics 365 Sales
B. a Power Automate flow that generates a new customer record in SharePoint.
C. a Power Automate flow to capture customer data from the bike fair Power Apps app in SharePoint and create a lead in Microsoft Teams.
D. a business process flow in Dynamics 365 Sales for capturing leads.

Answer(s): A

Explanation:
Scenario:
Qualified leads must be collected from local bike fairs.
Adventure Works Cycles uses a Power Apps app for local bike fairs to attract new customers.

By using a Dynamics 365 connector, you can create flows that initiate when an event occurs in Dynamics 365, or some other service, which then performs an action in Dynamics 365, or some other service.

In Power Automate, you can set up automated workflows between your favorite apps and services to synchronize files, get notifications, collect data, and more.

Reference:
https://docs.microsoft.com/en-us/power-automate/connection-dynamics365

QUESTION: 2
You need to reduce the number of Azure consumption API calls for User2. Which markup segment should you use?

A.

```
<policies>
  <inbound>
    <base />
    <rate-limit-by-key calls=”100”
    renewal-period= “30”
    increment-condition= “@(context.Response.StatusCode = = 200)”
    counter-key= “@(context.Request.IpAddress)”/>
  </inbound>
  <outbound>
    <base />
  </outbound>
</policies>
```

B.

```
<policies>
  <inbound>
    <base />
    <rate-limit calls="1000" renewal-period= "90" />
  </inbound>
  <outbound>
    <base />
  </outbound>
</policies>
```

C.

```
<policies>
  <inbound>
    <base />
    <rate-limit-by-key calls="1"
    renewal-period= "60"
    increment-condition= "@(context.Response.StatusCode = = 200)"
    counter-key="@(context.Request.IpAddress)"/>
  </inbound>
  <outbound>
    <base />
  </outbound>
</policies>
```

D.

```
<policies>
  <inbound>
    <base />
    <quota calls="100" bandwidth="400" renewal-period="30" />
  </inbound>
    <outbound>
        <base />
  </outbound>
</policies>
```

Answer(s): C

Explanation:
Scenario: User2 reports that Azure consumption for API calls has increased significantly to 100 calls per minute in the last month.

Example:
In the following example, the rate limit of 10 calls per 60 seconds is keyed by the caller IP address. After each policy execution, the remaining calls allowed in the time period are stored in the variable remainingCallsPerIP.

```
<policies>
  <inbound>
    <base />
    <rate-limit-by-key  calls="10"
         renewal-period="60"
         increment-condition="@(context.Response.StatusCode == 200)"
         counter-key="@(context.Request.IpAddress)"
         remaining-calls-variable-name="remainingCallsPerIP"/>
  </inbound>
  <outbound>
    <base />
  </outbound>
</policies>
```

Note: The rate-limit-by-key policy prevents API usage spikes on a per key basis by limiting the call rate to a specified number per a specified time period. The key can have an arbitrary string value and is typically provided using a policy expression. Optional increment condition can be added to specify which requests should be counted towards the limit. When this call rate is exceeded, the caller receives a 429 Too Many Requests response status code.

Incorrect Answers:
A: With renewal-period="30" 200 calls/minute would be allowed. B: This would increase the calls/minute limit to 1000.

Reference:
https://docs.microsoft.com/en-us/azure/api-management/api-management-access-restriction-policies

Exam Topic: Extend the platform questions

QUESTION: 1
A company uses a third-party shipping company to deliver products to customers.
You need to design a custom connector that retrieves the shipping fees from the shipping company API.

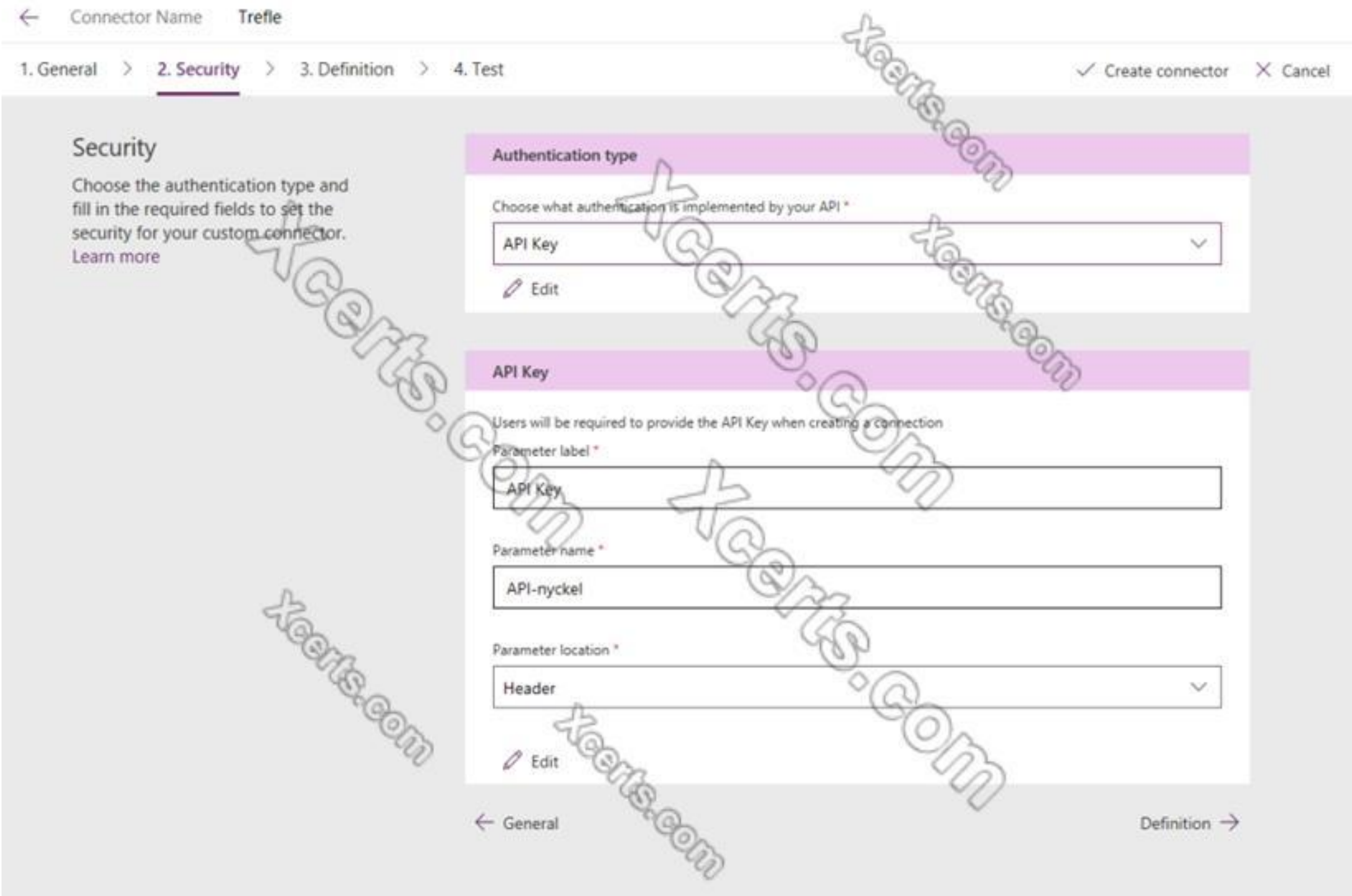
Which three elements should you define for the custom connector? Each correct answer presents part of the solution.

NOTE: Each correct selection is worth one point.

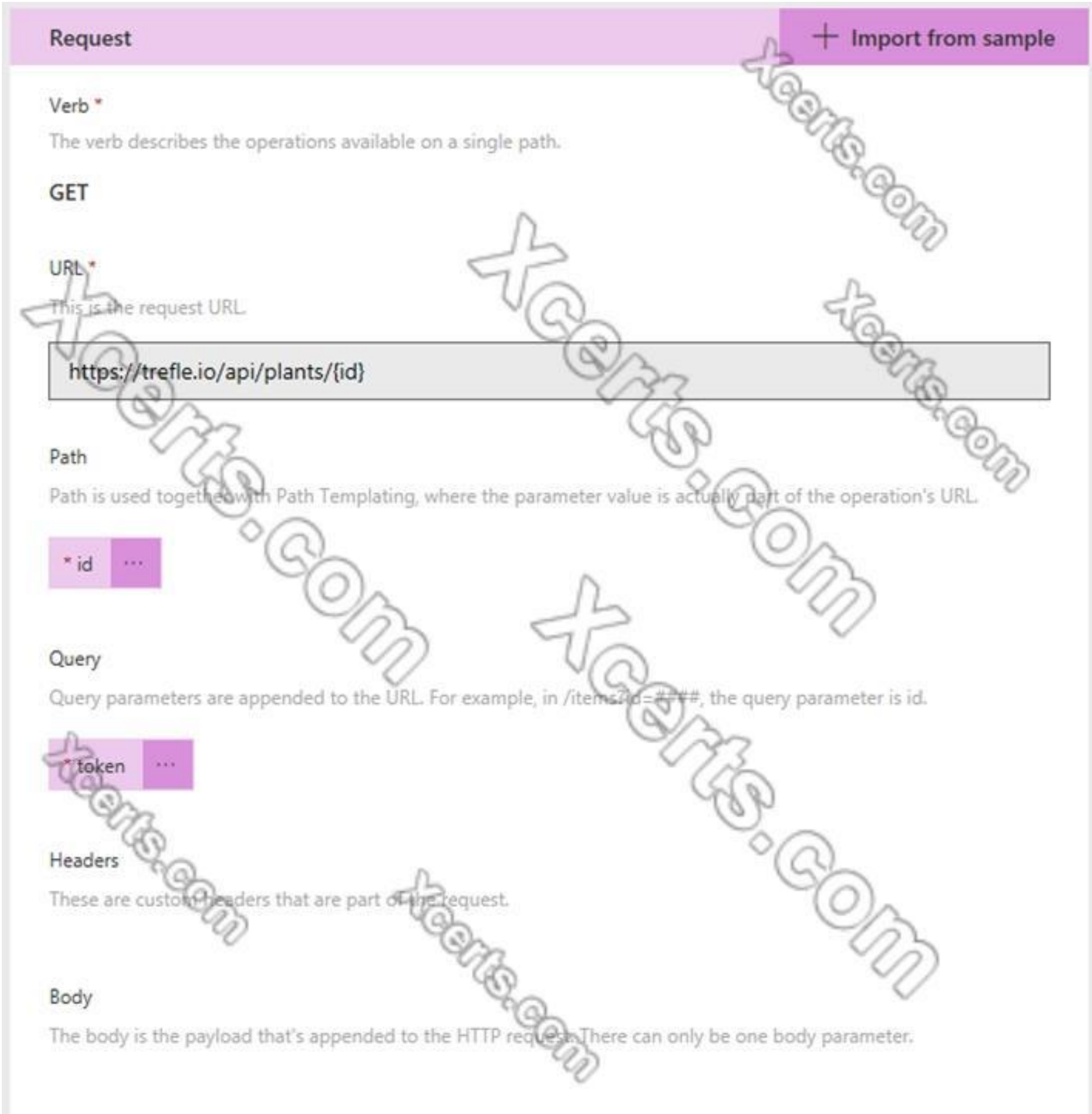
A. Authentication model
B. Address parameter
C. OpenAPI definition
D. Fee parameter
E. Fee reference

Answer(s): A, B, C

Explanation:
C: You can create a custom connector using a OpenAPI definition file or a URL to OpenAPI definition. B: On the Security page you get to choose how to authenticate to the API.



A: If you were to create a Custom Connector from scratch, then you whould have to study the API you have chosen and type in the URL manually here.



Reference:
https://carinaclaesson.com/2019/09/06/setting-up-a-custom-connector-from-an-openapi-file-and-utilizing-it-in-powerapps-and-flow/

QUESTION: 2
You are creating a Power Apps app that retrieves customer information from Azure Active Directory when you use the app to look up a customer record.

You create an Azure Function by using JSON code to retrieve the customer information. You need to make the application work.
Which two actions should you perform? Each correct answer presents part of the solution.
NOTE: Each correct selection is worth one point.

A. Create a Power Automate flow to import data.
B. Create a custom connector that uses the Azure Function API.
C. Copy your JSON code to the app.
D. Create a custom connector that uses the JSON code.
E. Create an API definition for the Azure Function.

Answer(s): B, E

Explanation:
E: Before exporting an API, you must describe the API using an OpenAPI definition.
B: This OpenAPI definition contains information about what operations are available in an API and how the request and response data for the API should be structured. PowerApps and Microsoft Flow can create custom connectors for any OpenAPI 2.0 definition.

Reference:
https://github.com/MicrosoftDocs/azure-docs/blob/master/articles/azure-functions/app-service-export-api-to-powerapps-and-flow.md

QUESTION: 3
HOTSPOT
A manufacturing company takes online orders.

The company requires automatic validation of order changes. Requirements are as follows:

- If validation is successful, the order is submitted.
- If exceptions are encountered, a message must be shown to the customer.

You need to set up and deploy a plug-in that encapsulates the rules.

Which options should you use? To answer, select the appropriate options in the answer area.
NOTE: Each correct selection is worth one point.
Hot Area:

Exhibit A:

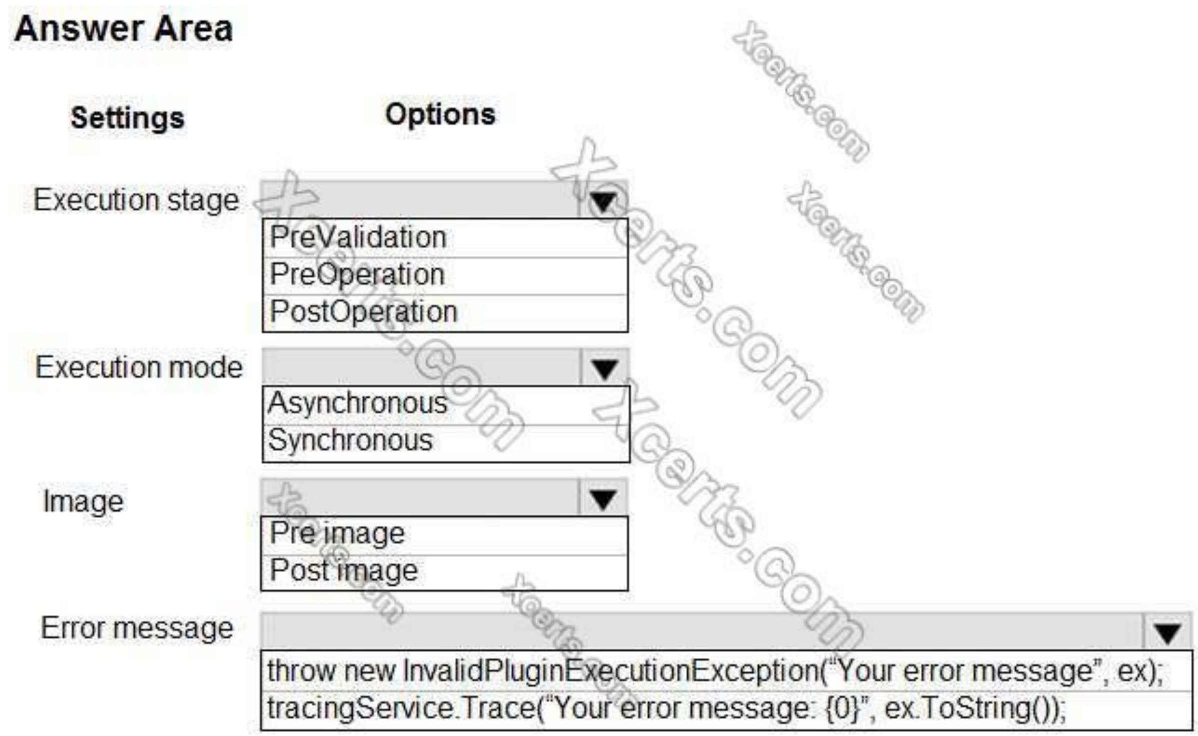
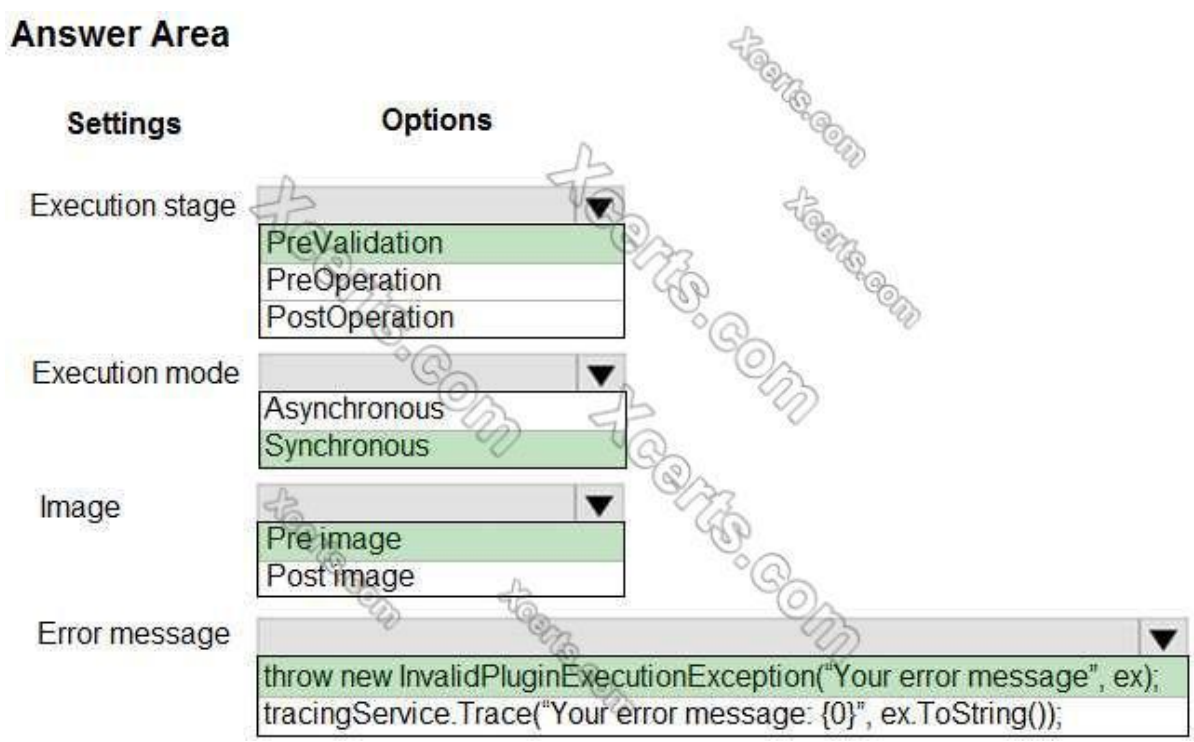


Exhibit B:



A. Please refer to Exhibit B for the answer.

Answer(s): A

Explanation:
Box 1: PreValidation

PreValidation: For the initial operation, this stage will occur before the main system operation. This provides an opportunity to include logic to cancel the operation before the database transaction.

Box 2: Synchronous
Ideally, you should only cancel operations using synchronous plug-ins registered in the PreValidation stage. Box 3: Pre Image
Box 4: throw ..
When you throw an InvalidPluginExecutionException exception within a synchronous plug-in an error dialog with your message will be displayed to the user.

Reference:
https://docs.microsoft.com/en-us/powerapps/developer/common-data-service/event-framework
https://docs.microsoft.com/en-us/powerapps/developer/common-data-service/handle-exceptions

QUESTION: 3
A company uses five different shipping companies to deliver products to customers. Each shipping company has a separate service that quotes delivery fees for destination addresses.

You need to design a custom connector that retrieves the shipping fees from all the shipping companies by using their APIs.

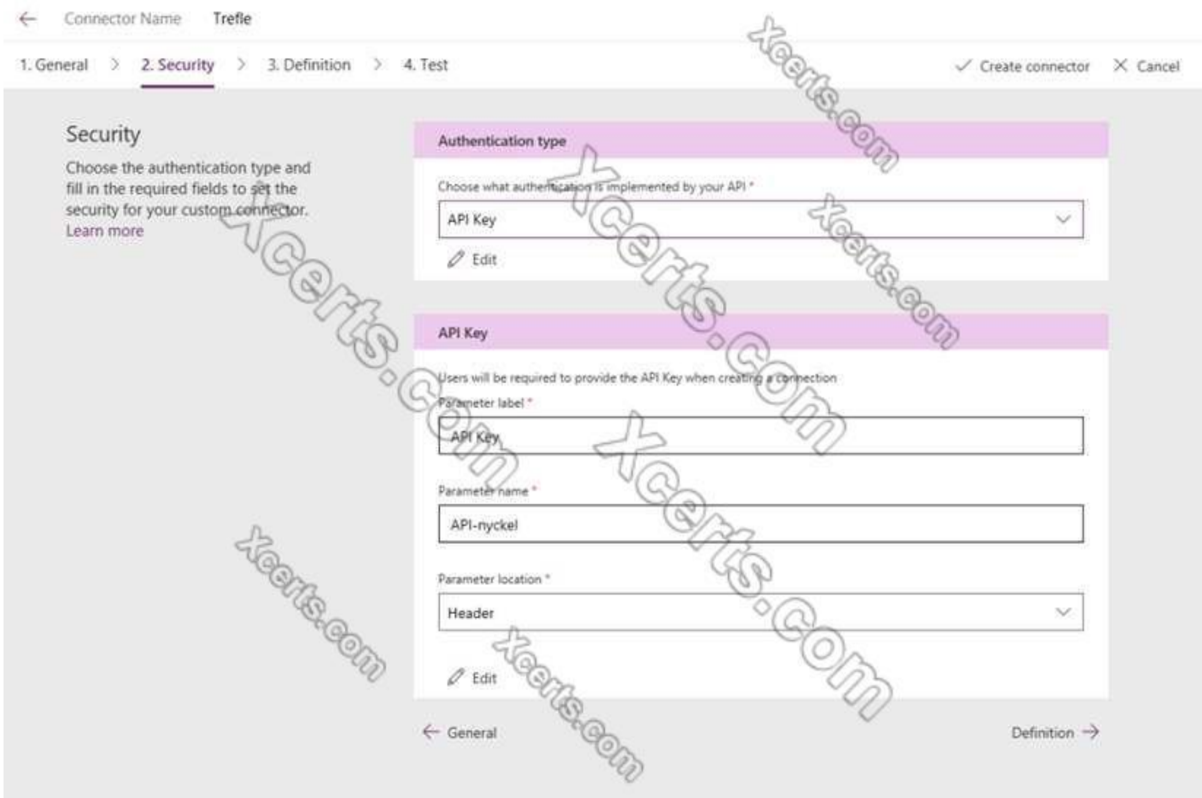
Which three elements should you define for the custom connector? Each correct answer presents part of the solution.

NOTE: Each correct selection is worth one point.

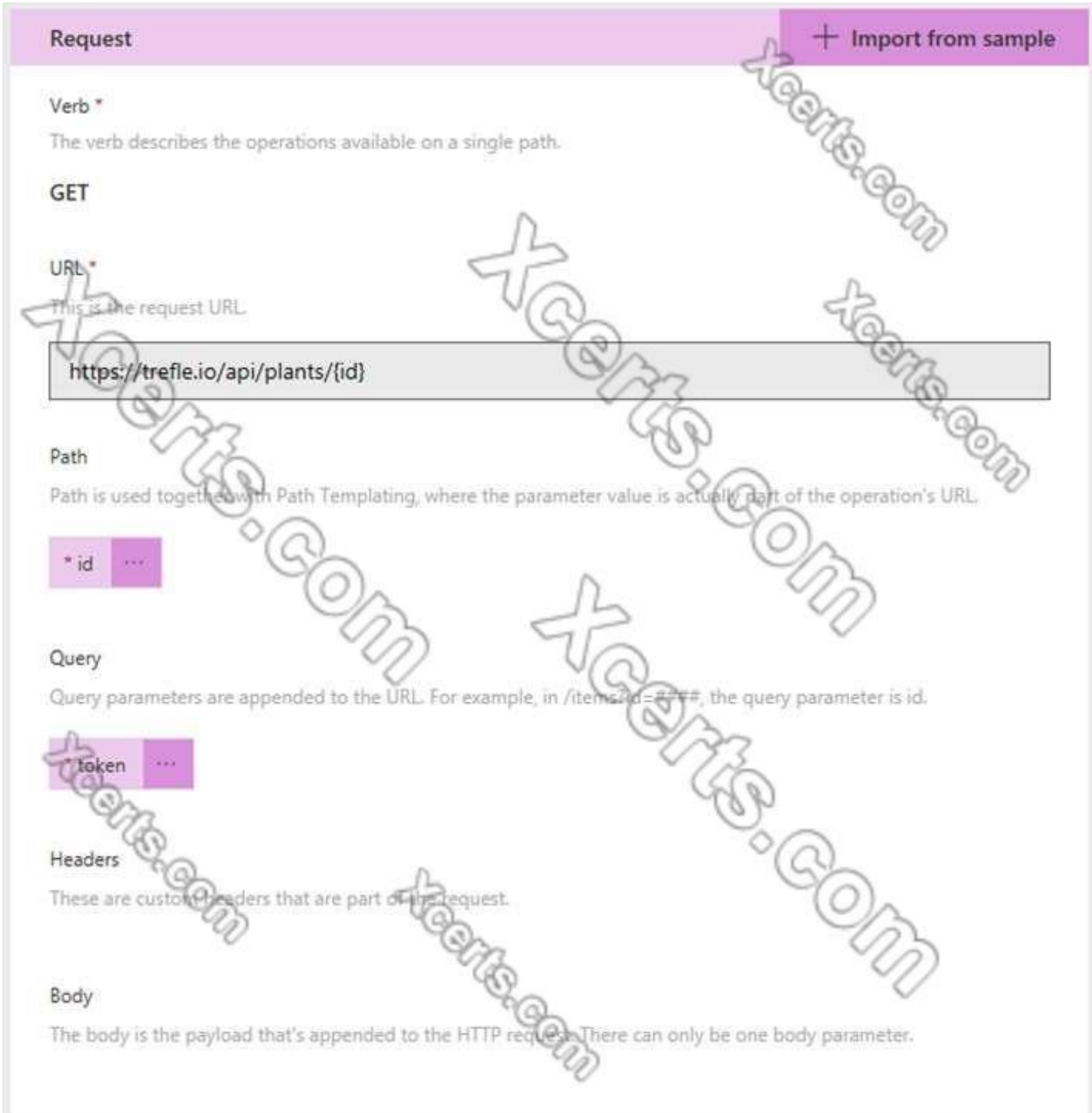
A. Authentication model
B. Address parameter
C. OpenAPI definition
D. Fee parameter
E. Fee reference

Answer(s): A, B, C

Explanation:
C: You can create a custom connector using a OpenAPI definition file or a URL to OpenAPI definition.
B: On the Security page you get to choose how to authenticate to the API.



A: If you were to create a Custom Connector from scratch, then you whould have to study the API you have chosen and type in the URL manually here.



Reference:
https://carinaclaesson.com/2019/09/06/setting-up-a-custom-connector-from-an-openapi-file-and-utilizing-it-in-powerapps-and-flow/

QUESTION: 4
You are creating an integration that uses an Azure function to create records in the Common Data Service when leads are submitted from your company website.

You create and configure a Common Data Service application user.

You do not have administrator access to the Common Data Service environment you are using for access to Azure Active Directory. Company policy dictates that service accounts must be used for integrations, and integrations must not be granted privileges beyond what is needed.

You need to recommend actions that an administrator should perform to configure access for the Azure Function.

Which three actions should you perform? Each correct selection presents part of the solution.
NOTE: Each correct selection is worth one point.

A. Create an application registration in Azure Active Directory.
B. Assign the system administrator security role to the application user.
C. Assign the Power Platform administrator role to the application user in Azure Active Directory.
D. Create a new security role with the minimum required permissions and assign to the application user.
E. Grant the application delegated permissions to the Dynamics CRM API in Azure Active Directory.
F. Deploy Azure B2B guest permissions to the application user.

Answer(s): A, D, E
Reference:
https://docs.microsoft.com/en-us/powerapps/developer/common-data-service/walkthrough-register-app-azure-active-directory

QUESTION: 5
HOTSPOT
You work for a multinational company that has Azure and Common Data Service environment in the United States (UTC-7) and Japan (UTC+9).

You create Azure Functions for each location to update key data.
You need to configure the functions to run at 4:00 AM on weekdays at each location.

Which schedule formats should you use? To answer, select the appropriate options in the answer area.
NOTE: Each correct selection is worth one point.
Hot Area:

Exhibit A:

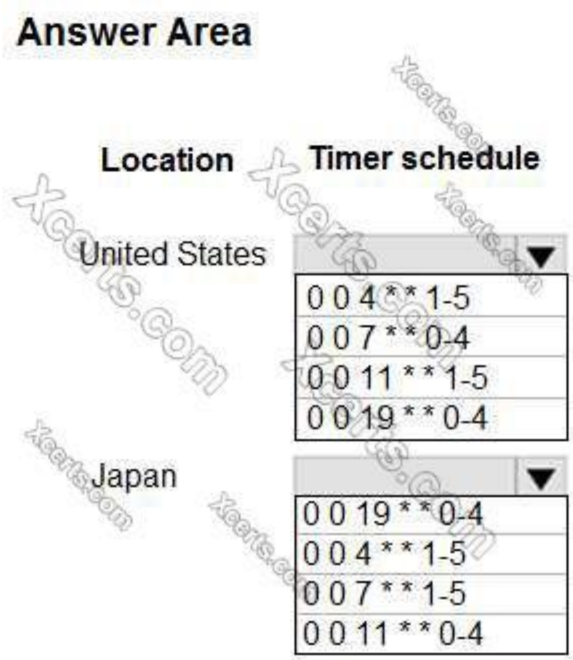
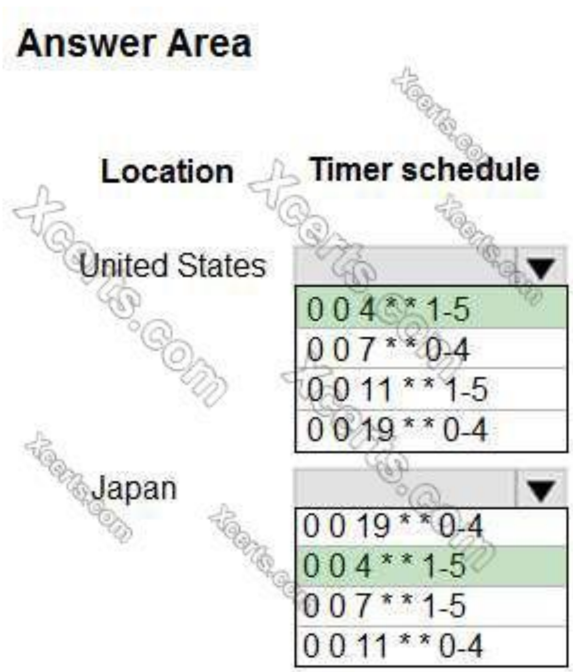


Exhibit B:



A. Please refer to Exhibit B for the answer.

Answer(s): A

Explanation:
Box 1: 0 0 4 * * 1-5
Azure Functions uses the NCronTab library to interpret NCRONTAB expressions.

An NCRONTAB expression is similar to a CRON expression except that it includes an additional sixth field at the beginning to use for time precision in seconds:

{second} {minute} {hour} {day} {month} {day-of-week}

NCRONTAB time zones
The numbers in a CRON expression refer to a time and date, not a time span. For example, a 5 in the hour field refers to 5:00 AM, not every 5 hours.
The default time zone used with the CRON expressions is Coordinated Universal Time (UTC). To have your CRON expression based on another time zone, create an app setting for your function app named WEBSITE_TIME_ZONE.

1-5 is weekdays
Box 2: 0 0 4 * * 1-5

Reference:
https://docs.microsoft.com/en-us/azure/azure-functions/functions-bindings-timer?

QUESTION: 6
DRAG DROP
You are creating a PowerApps connector between Dynamics 365 Sales and Slack.

You must generate a Slack notification whenever a new product is added to Dynamics 365 Sales. You must not be required to sign in directly into Dynamics 365 Sales to generate notifications. You created a Power Apps connector between Dynamics 365 Sales in Slack to enable this to happen.

You need to configure the appropriate security for each scenario? Which security components should you configure?

NOTE: Each correct selection is worth one point.
Select and Place:

Exhibit A:

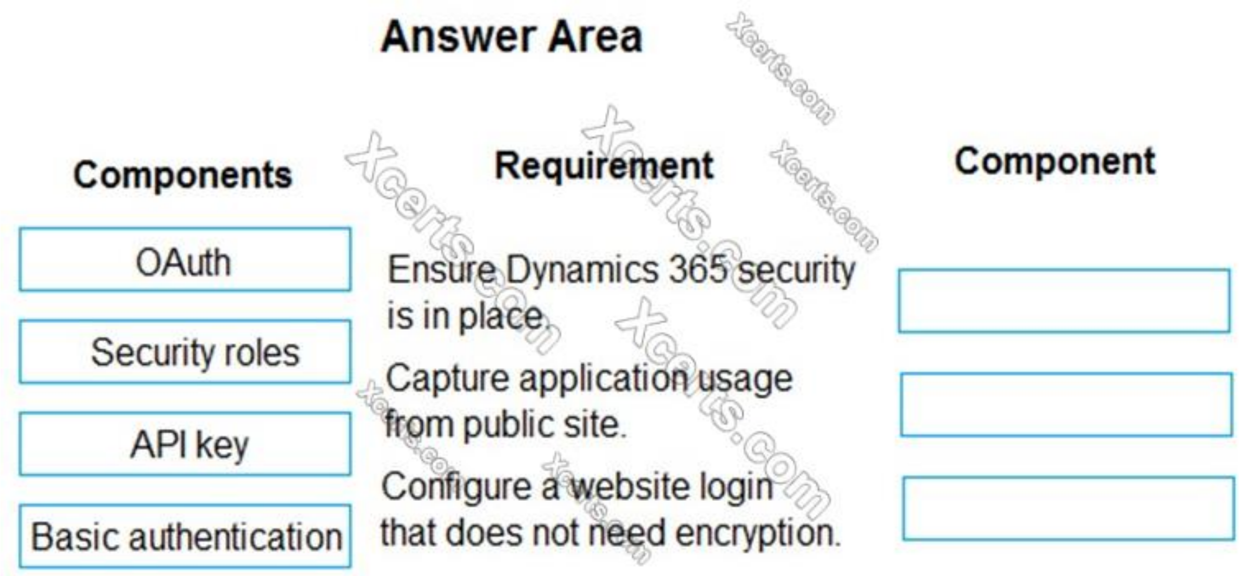
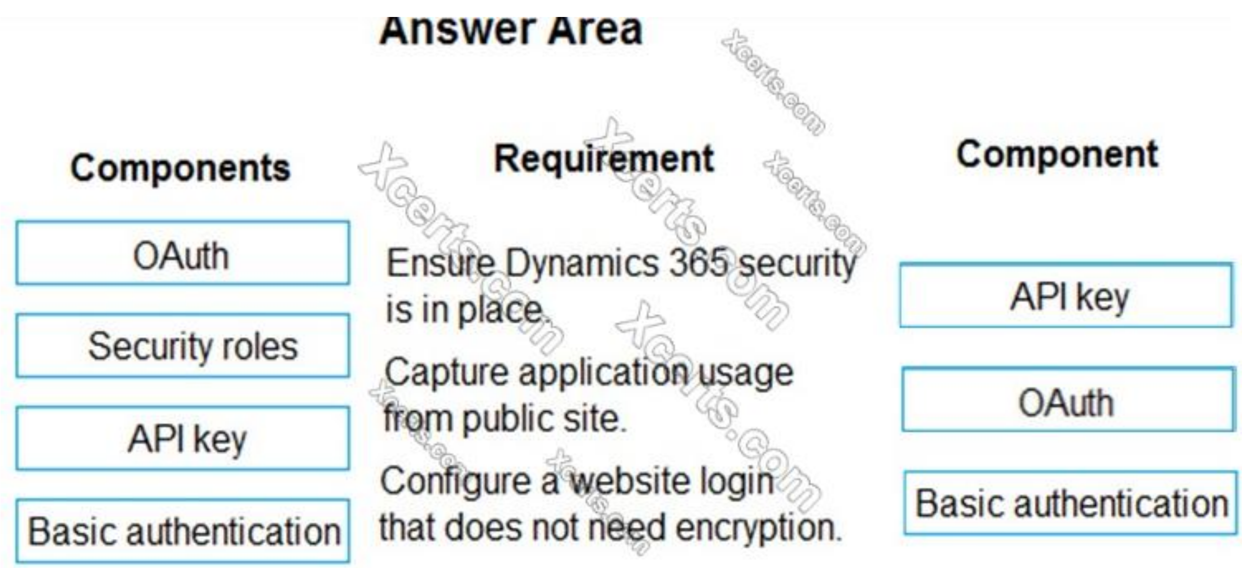


Exhibit B:



A. Please refer to Exhibit B for the answer.

Answer(s): A

Explanation:
Box 1: API key
Api Key based authentication: The user will need to provide the API key while creating the connection.

Box 2: OAuth
Oauth 2.0 is the most frequently used type, which uses the Oauth 2 authentication framework to authenticate with the service. Before using this authentication type, you'll need to register your application with the service so that it can receive access tokens for the users.

Box 3: Basic Authentication
Basic Authentication is the simplest type of authentication, where the user just has to provide the username and password to create the connection.

Reference:
https://docs.microsoft.com/en-us/connectors/custom-connectors/connection-parameters

QUESTION: 7
DRAG DROP
A developer must register a step using the Plug-in registration tool.
You need to associate the correct Event Pipeline Stage of Execution with its purpose.

Which stage should you associate with each description? To answer, drag the appropriate stages to the correct descriptions. Each stage may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.

NOTE: Each correct selection is worth one point.
Select and Place:

Exhibit A:

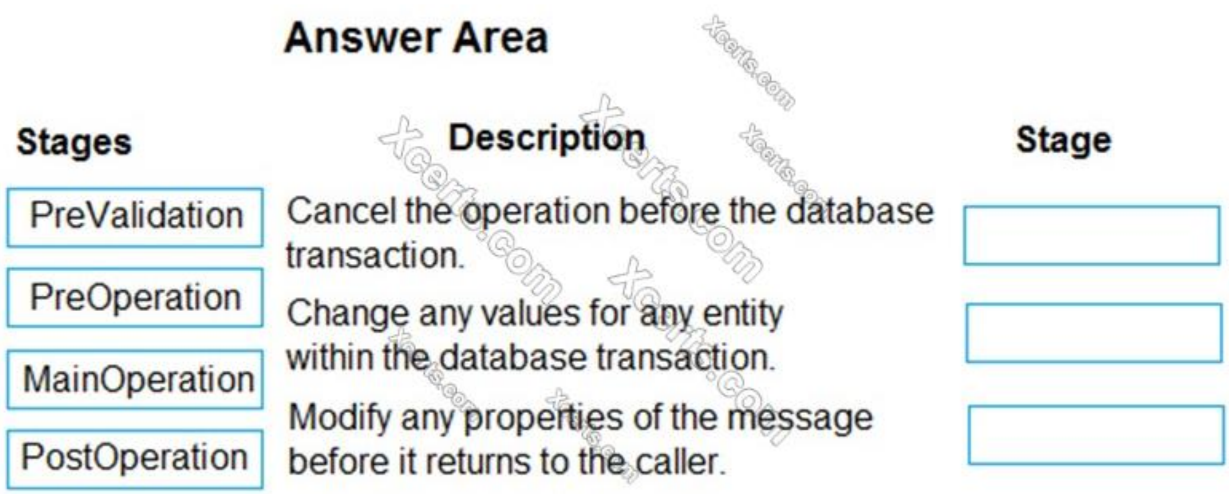
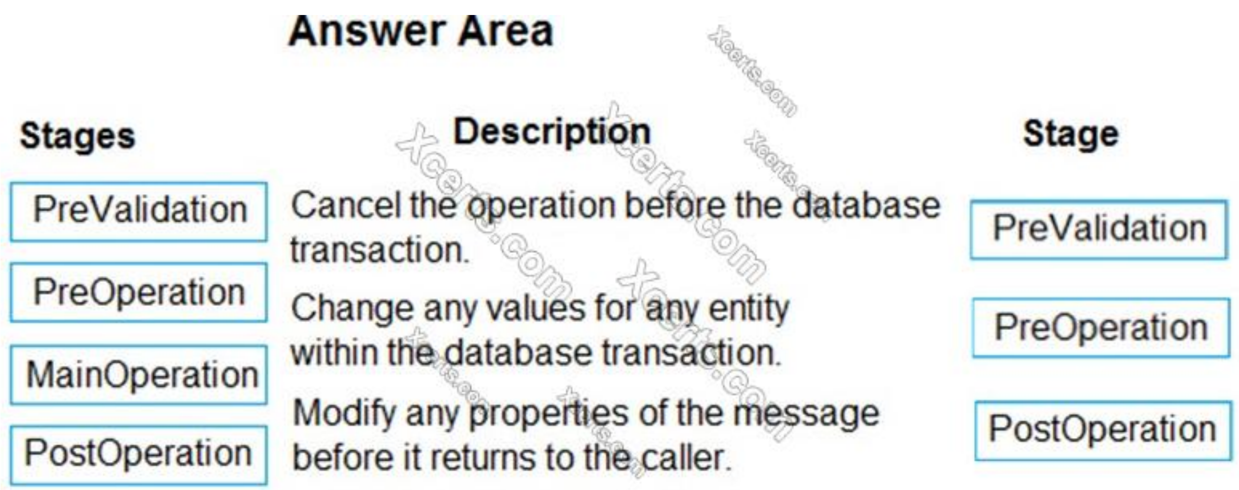


Exhibit B:



A. Please refer to Exhibit B for the answer.

Answer(s): A

Explanation:
Box 1: PreValidation
For the initial operation, this stage will occur before the main system operation.
This provides an opportunity to include logic to cancel the operation before the database transaction. Box 2: PreOperation
PreOperation occurs before the main system operation and within the database transaction. If you want to change any values for an entity included in the message, you should do it here.
Box 3: PostOperation
Occurs after the main system operation and within the database transaction.
Use this stage to modify any properties of the message before it is returned to the caller.

Incorrect Answers:
MainOperation: For internal use only except for Custom API and Custom virtual table data providers.

Reference:
https://docs.microsoft.com/en-us/powerapps/developer/data-platform/event-framework

QUESTION: 8
HOTSPOT
An organization has a custom Assignments entity that guides agent actions. Team leaders for each assignment group must be able to review any changes made to assignment data by their agents.

You have the following JSON segment:

```
{
 "@odata.context": "https://orgxyz.api.crm3.dynamics.com/api/data/v9.1/$metadata#xyz_assignments
 (xyz_assignmentname,xyz_secretcode)",
 "@odata.deltaLink": "https://orgxyz.api.crm3.dynamics.com/api/data/v9.1/xyz_assignments?
 $select=xyz_assignmentname,
     xyz_secretcode$deltatoken=652832%2107%2f20%2f2020%2017%3a21%3o13",
 "value": [
 {
      "@odata.etag": "W/\"652815\"",
      "xyz_assignmentname": "spy007",
      "xyz_secretcode": "abc",
      "xyz_assignmentid": "a278f39e-a7ca-ea11-a812-000d3af45c52"
     },
     {
      "@odata.etag": "W/\"652816\"",
     "xyz_assignmentname": "agent007",
     "xyz_secretcode": "123",
     "xyz_assignmentid": "1e110eac-a7ca-ea11-a812-000d3af45c52"
     }
     …
   ]
}
```

For each of the following statements, select Yes if the statement is true. Otherwise, select No.
NOTE: Each correct selection is worth one point.

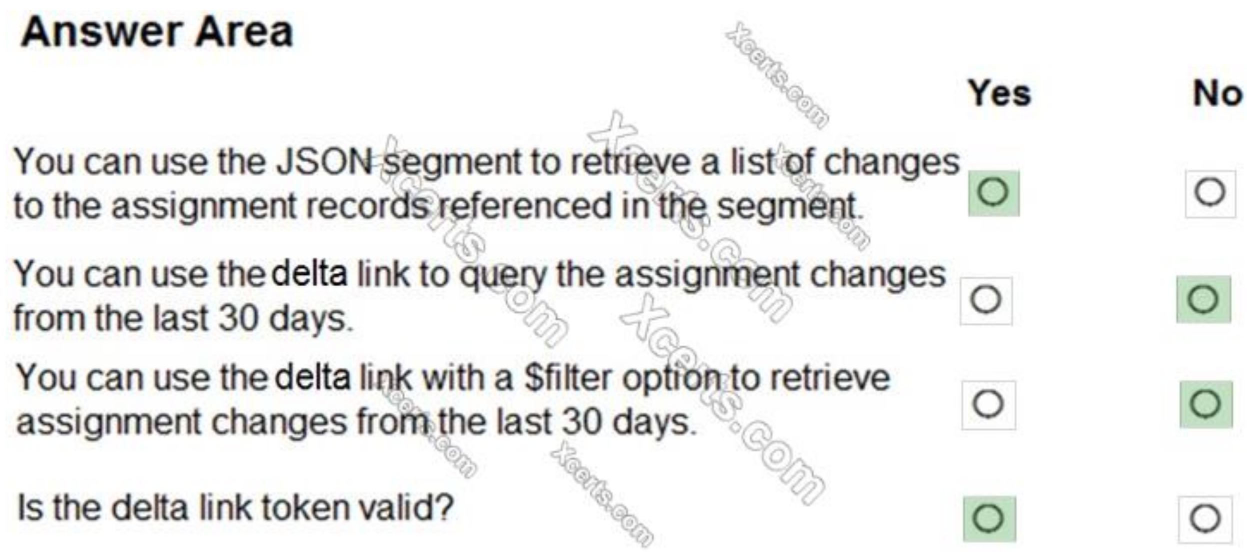
Hot Area:

Exhibit A:

Answer Area

	Yes	No
You can use the JSON segment to retrieve a list of changes to the assignment records referenced in the segment.	○	○
You can use the delta link to query the assignment changes from the last 30 days.	○	○
You can use the delta link with a $filter option to retrieve assignment changes from the last 30 days.	○	○
Is the delta link token valid?	○	○

Exhibit B:



A. Please refer to Exhibit B for the answer.

Answer(s): A

Explanation:
Box 1: Yes
Delta query lets you query for additions, deletions, or updates to users, by way of a series of delta function calls. Delta query enables you discover changes to users without having to fetch the entire set of users from Microsoft Graph and compare changes.

Box 2: No
Tracking user changes
Tracking user changes is a round of one or more GET requests with the delta function. You make a GET request much like the way you list users, except that you include the following:

The delta function.
A state token (deltaToken or skipToken) from the previous GET delta function call.

Delta tokens are only valid for a specific period before the client application needs to run a full synchronization again. For directory objects (application, administrativeUnit, directoryObject, directoryRole, group, orgContact, oauth2permissiongrant, servicePrincipal, and user), the limit is 7 days.

Box 3: No
There is limited support for $filter:
The only supported $filter expression is for tracking changes on a specific object: $filter=id+eq+{value}. Box 4: Yes

Reference:
https://docs.microsoft.com/en-us/graph/api/user-delta

QUESTION: 9
HOTSPOT
A training company implements a Common Data Service (CDS) environment. The company has created and stores information about courses in a custom entity.

A Power Automate flow must be created whether a course has been created that starts within the next seven days and must be accurate to the minute.

You need to define an expression that meets the requirements.

Which functions should you use for the expression? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.
Hot Area:

Exhibit A:

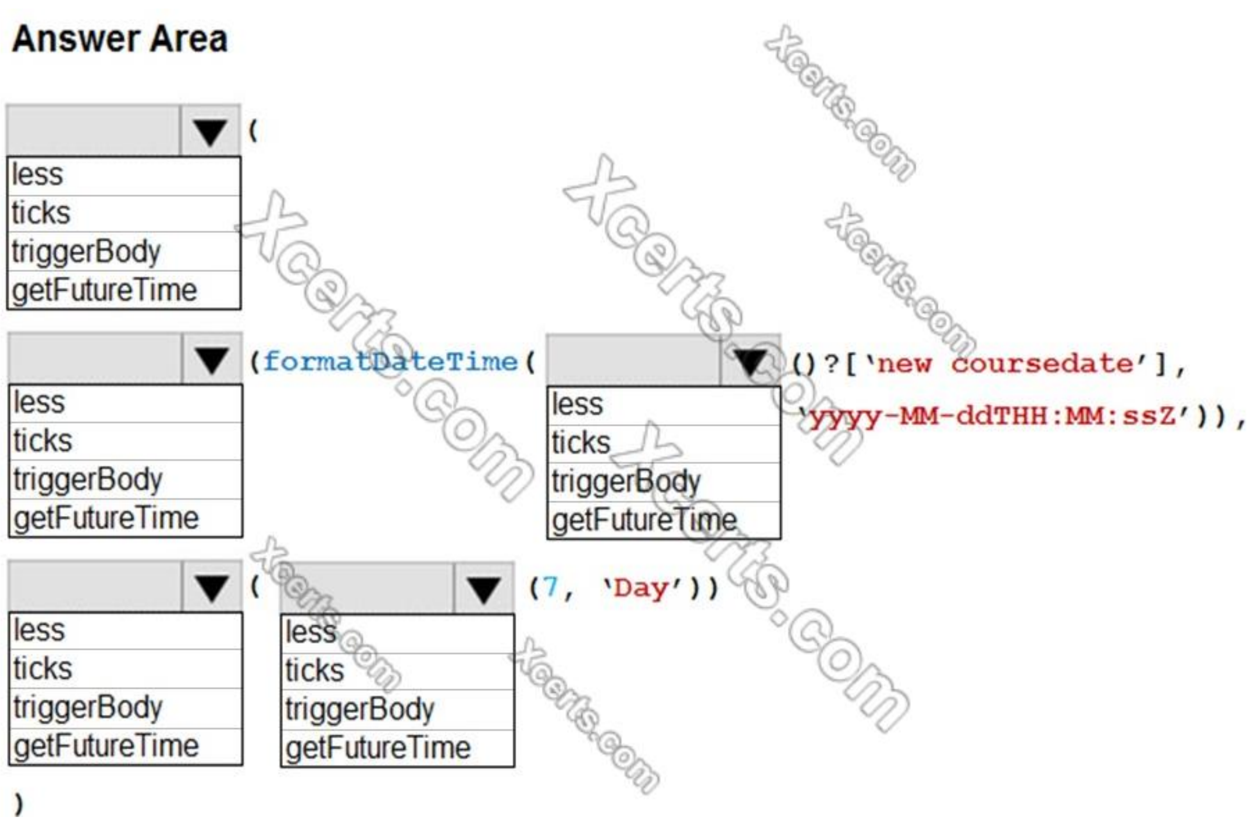
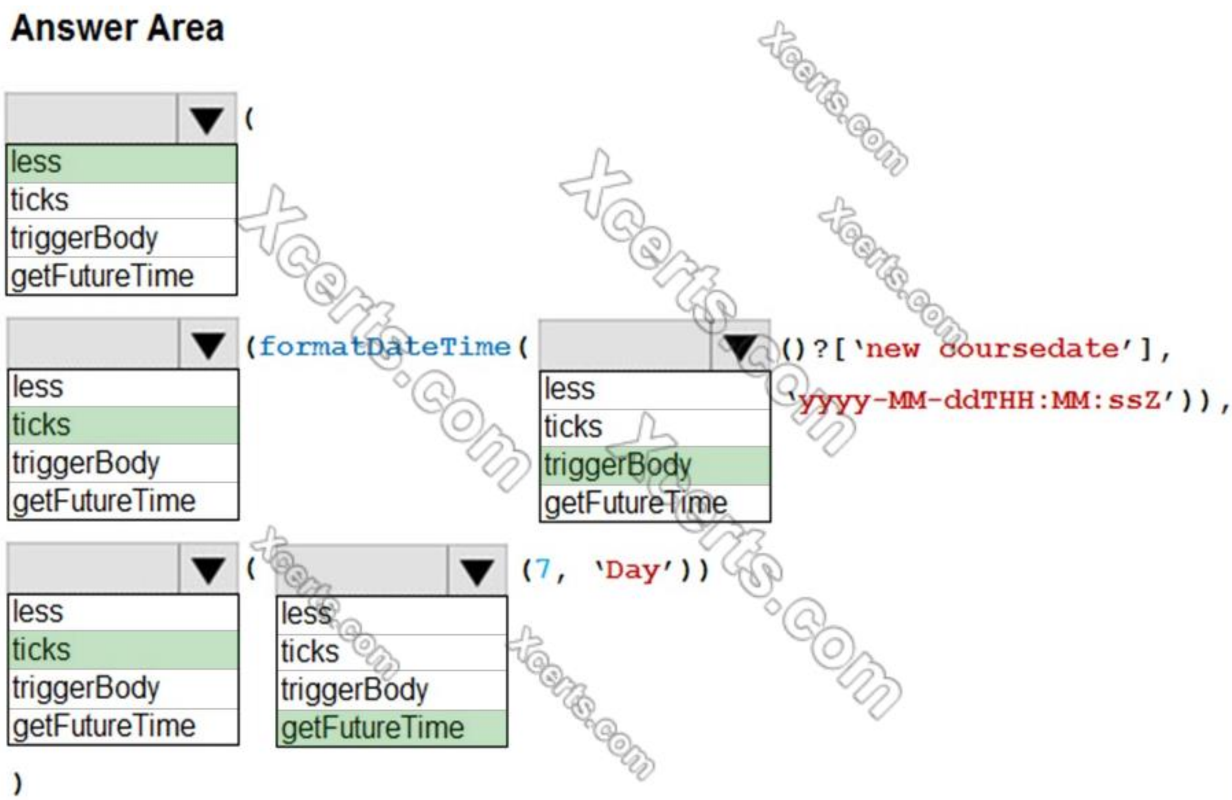


Exhibit B:



A. Please refer to Exhibit B for the answer.

Answer(s): A

Explanation:
Box 1: less
less checks whether the first value is less than the second value. Return true when the first value is less, or return false when the first value is more.

Box 2 : ticks
ticks(timestamp: string) - Returns the number of ticks (100 nanoseconds interval) since 1 Jan 1601 00:00:00 UT

Syntax: ticks('<timestamp>')

Box 3: triggerBody
triggerBody returns a trigger's body output at runtime.

Box 4: ticks

Box 5: getFutureTime
getFutureTime teturn the current timestamp plus the specified time units. Syntax: getFutureTime(<interval>, <timeUnit>, <format>?)

Reference:

https://docs.microsoft.com/en-us/azure/logic-apps/workflow-definition-language-functions-reference

QUESTION: 10
DRAG DROP
A company uses Dynamics 365 Sales.

Sales commission must be calculated when an order is placed. You create an Azure Function to perform the calculation. The Azure Function has an HTTP trigger.

You need to configure the Plug-in Registration tool to send data to the Azure Function when an order is placed. You open the Plug-in Registration tool and connect to Dynamics 365 Sales.

Which three actions should you perform in sequence? To answer, move the appropriate actions from the list of actions to the answer area and arrange them in the correct order.
Select and Place:

Exhibit A:

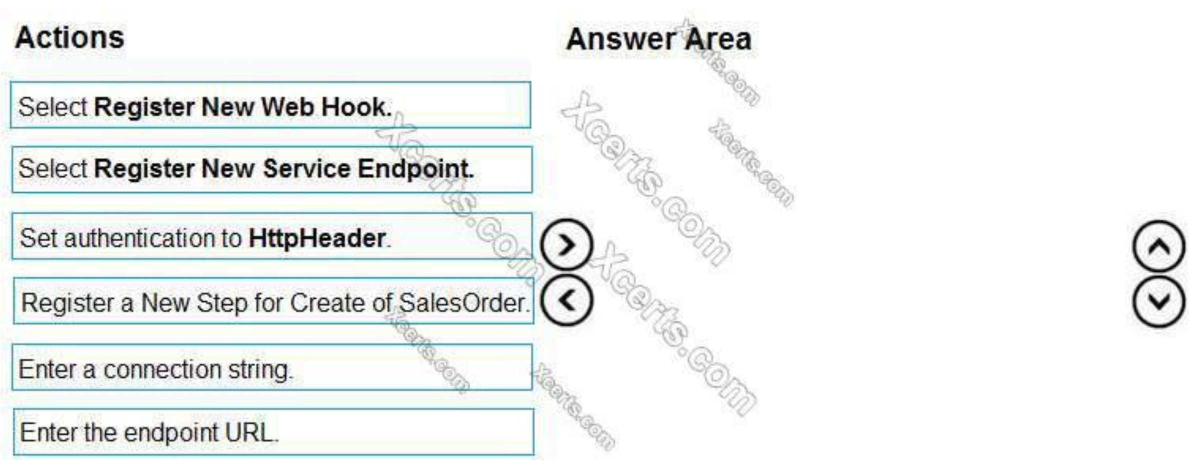
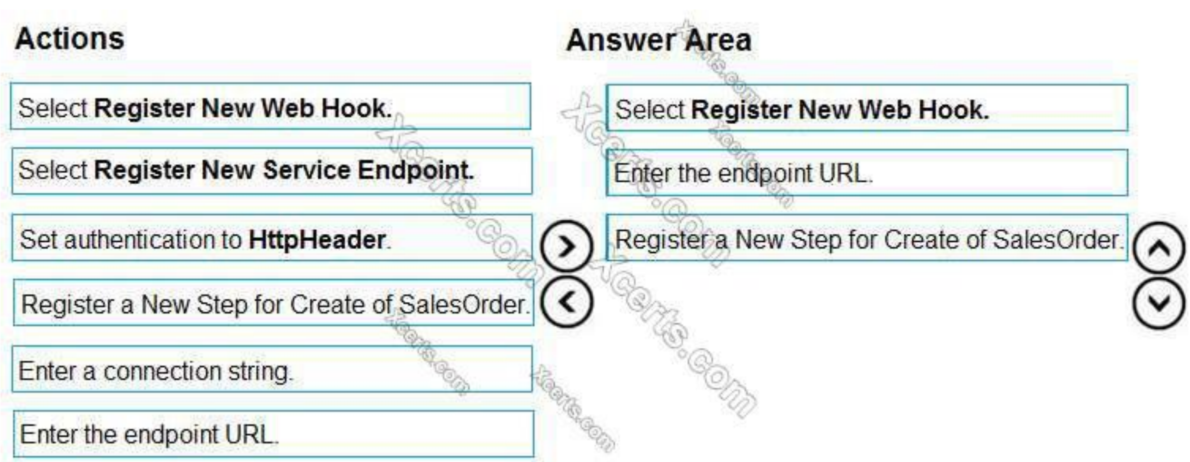


Exhibit B:



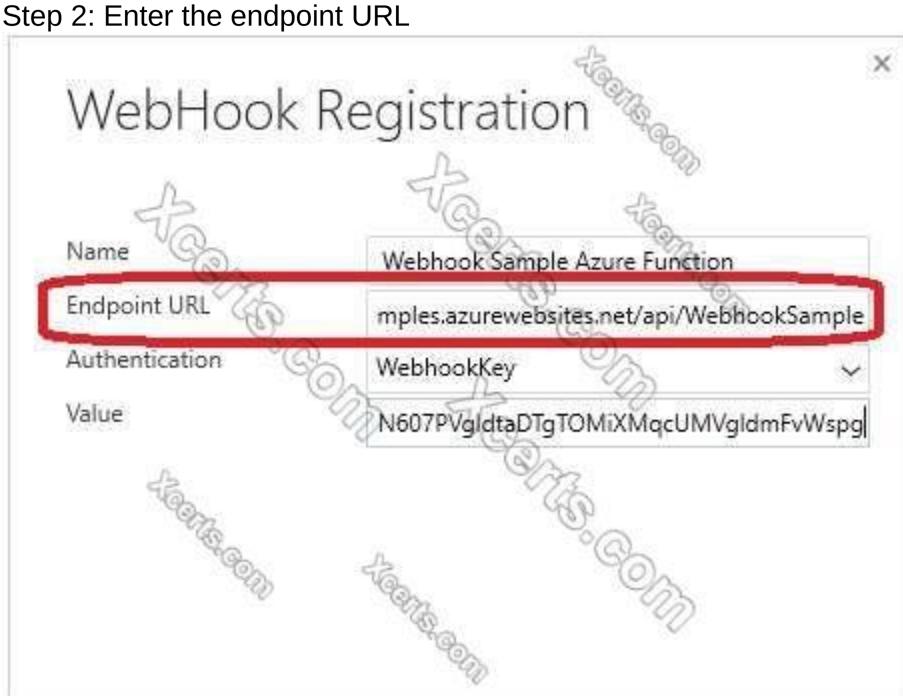
A. Please refer to Exhibit B for the answer.

Answer(s): A

Explanation:
Step 1:SelectRegister New Web Hook.

Configure Dynamics 365 Sales to Call Your Webhook in Azure Functions
1. Open the Plug-in Registration Tool and connect to your organization.
2. Select Register->Register New Web Hook

Step 2: Enter the endpoint URL



Step 3: Register a New Step for Create of SalesOrder.
Register a new webhook, and then tie that webhook to an event in Dynamics 365 Sales. Select your newly registered webhook, right-click it, and then choose "Register New Step."

Note that the webhook here is set to execute whenever a change to an account record is detected within Dynamics 365 Sales.

Reference:
https://docs.microsoft.com/en-us/powerapps/developer/common-data-service/tutorial-write-plug-in

QUESTION: 11
A company needs to illustrate the relationships of the entities in Dynamics 365 Sales. You need to select the appropriate tool to show this graphic.
Which tool should you select?

A. Metadata diagram
B. Sales Insights
C. Power Automate
D. Security model

Answer(s): A

Explanation:
Visual representation of metadata can be useful, especially when you are trying to describe the relationship between entities in the system. You can use the Metadata Diagram sample code provided for Dynamics 365 Customer Engagement (on-premises) to generate the entity relationship diagrams.

You can create a diagram that shows a relationship for just one entity, or a complex diagram that includes dozens of related entities, including custom and system entities.

Reference:
https://docs.microsoft.com/en-us/dynamics365/customerengagement/on-premises/developer/use-metadata-generate-entity-diagrams

QUESTION: 12
HOTSPOT
A travel agency uses Dynamics 365 Sales.

Customers are allowed to add up to three regions to their travel preferences from the website. Customer preferences must be stored in the Contact entity. An error message must display if customers enter data incorrectly. You create a plug-in.

You need to register the plug-in to meet the requirements.

Which value should you apply for each parameter? To answer, select the appropriate options in the answer area.

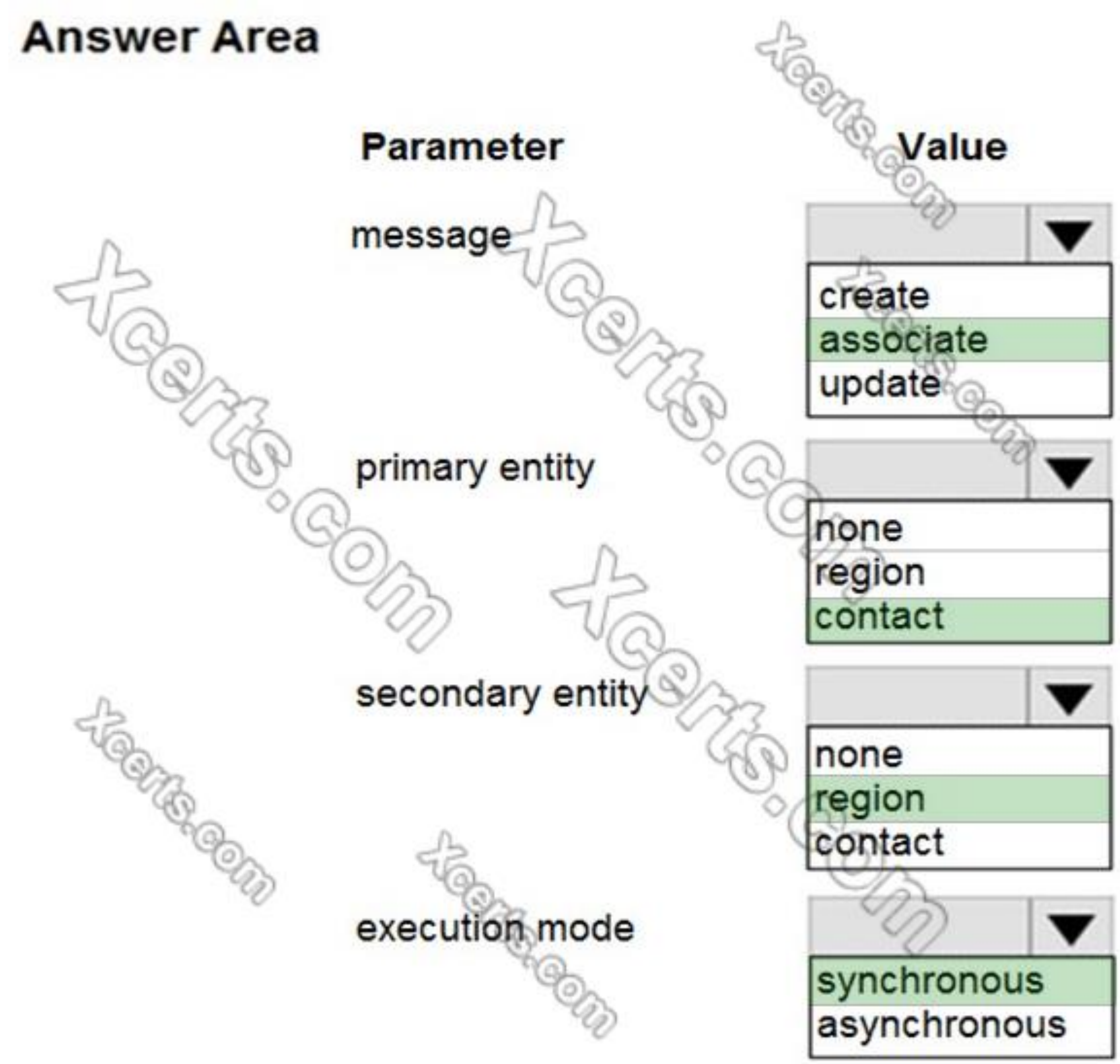
NOTE: Each correct selection is worth one point.
Hot Area:

Exhibit A:

Answer Area

Parameter	Value
message	create associate update
primary entity	none region contact
secondary entity	none region contact
execution mode	synchronous asynchronous

Exhibit B:



A. Please refer to Exhibit B for the answer.

Answer(s): A

Explanation:
Box 1: associate

Box 2: contact
Customers are allowed to add up to three countries/regions to their travel preferences from the website. Their preferences must be stored in the Contact entity.

Box 3: region
Box 4: synchronous

Reference:
https://docs.microsoft.com/en-us/powerapps/developer/common-data-service/tutorial-write-plug-in

QUESTION: 13
The communication department for a company plans to add a publicly accessible survey page to the company's public website.

You must add the new survey page to the company's public website and capture data from the page to a Common Data Service environment.

Explicit user credentials must not be required to write survey data to Common Data Service.
You need to implement authentication.
Which authentication mechanism should you implement?

A. Microsoft 365
B. X.509 certificate
C. OAuth 2.0
D. Claims-based

Answer(s): C

Explanation:
OAuth is the preferred means to authenticate because it provides access to both the OData RESTful web services (Web API and OData global Discovery service) as well as to the SOAP web services (Organization service and Discovery service).

OAuth is also required to support:

- Azure Active Directory configurations for conditional access, such as Two-factor Authentication (2FA)
- Use of client secrets to enable server-to-server authentication scenarios.
- Cross-Origin Resource Sharing (CORS) to connect a Single-page Application (SPA)

Incorrect Answers:
A: Using Microsoft 365 authentication does not require that your register your applications as OAuth does. You must simply provide a User Principal Name (UPN) and password for a valid user.

Reference:
https://docs.microsoft.com/en-us/powerapps/developer/data-platform/authentication

QUESTION: 14
You are deploying a Power Apps app that uses the custom connector for ServiceNow.

The app loads very slowly for some users. You determine that all records from ServiceNow are being retrieved for every user.

The app must load only incidents that are assigned to each user. You need to limit the number of records that the connector returns. What should you do?

A. Apply a Lifecycle Services asset scope
B. Apply a business process flow

C. Apply the Azure APIM parameter
D. Apply a connector policy template

Answer(s): D

Explanation:
You can configure policy templates for custom connectors. Policies allow you to modify the behavior of a custom connector at runtime. You can use policies to perform data conversion, route requests, set parameter values, and more. You can configure policies directly in the custom connector API properties file before import, or you can do it from the maker portal in the custom connector designer by applying policy templates.

Note: ServiceNow Action: GetRecords Summary: List Records
Description: Gets records of a certain ServiceNow object type like 'Incidents'
Syntax:ServiceNow.GetRecords (string tableType, [advanced][Optional]boolean sysparm_display_value, [advanced][Optional]boolean sysparm_exclude_reference_link, [advanced][Optional]string sysparm_query, [advanced][Optional]integer sysparm_limit, [advanced][Optional]integer sysparm_offset)

Reference:
https://docs.microsoft.com/en-us/learn/modules/policy-templates-custom-connectors/
https://www.carlosag.net/PowerApps/Connectors/ServiceNow

QUESTION: 15
A company is developing multiple plug-ins. One of the plug-ins keeps failing.
You need to debug the plug-in.

Which three actions should you perform? Each correct answer presents part of the solution.
NOTE: Each correct selection is worth one point.

A. Highlight the plug-in step and select Debug in the Plug-in Registration tool
B. Copy the .pdb file into the server/bin/assembly folder
C. Select Start Profiling in the Plug-in Registration tool
D. Attach the debugger to the w3wp.exe process
E. Install the plug-in profiler

Answer(s): A, C, E

Explanation:
Step 1: Install plug-in profiler
Because the plug-in executes on a remote server, you cannot attach a debugger to the process. The plug-in profiler captures a profile of an executing plug-in and allows you to re-play the execution of the plug-in using Visual Studio on your local computer.

Step 2: Start profiling
1. In the Plug-in Registration tool, select the (Step) BasicPlugin.FollowupPlugin: Create of account step, and click Start Profiling.
2. In the Profiler Settings dialog accept the default settings and click OK to close the dialog.

Step 3: Debug your plug-in

Reference:
https://docs.microsoft.com/en-us/powerapps/developer/data-platform/tutorial-debug-plug-in

Exam Topic: Develop integrations

Testlet 1

Case study
This is a case study. Case studies are not timed separately. You can use as much exam time as you would like to complete each case. However, there may be additional case studies and sections on this exam. You must manage your time to ensure that you are able to complete all questions included on this exam in the time provided.

To answer the questions included in a case study, you will need to reference information that is provided in the case study. Case studies might contain exhibits and other resources that provide more information about the scenario that is described in the case study. Each question is independent of the other questions in this case study.

At the end of this case study, a review screen will appear. This screen allows you to review your answers and to make changes before you move to the next section of the exam. After you begin a new section, you cannot return to this section.

To start the case study
To display the first question in this case study, click the Next button. Use the buttons in the left pane to explore the content of the case study before you answer the questions. Clicking these buttons displays information such as business requirements, existing environment, and problem statements. If the case study has an All Information tab, note that the information displayed is identical to the information displayed on the subsequent tabs. When you are ready to answer a question, click the question button to return to the question.

Background

Current environment
Adventure Works Cycles wants to replace their paper-based bicycle manufacturing business with an efficient paperless solution. The company has one manufacturing plant in Seattle that produces bicycle parts, assembles bicycles, and distributes finished bicycles to the Pacific Northwest.

Adventure Works Cycles has a retail location that performs bicycle repair and warranty repair work. The company has six maintenance vans that repair bicycles at various events and residences.

Adventure Works Cycles recently deployed Dynamics 365 Finance and Dynamics 365 Manufacturing in a Microsoft-hosted environment for financials and manufacturing. The company plans to leverage the Microsoft Power Platform to migrate all of their distribution and retail workloads to Dynamics 365 Unified Operations.

The customer uses Dynamics 365 Sales. Dynamics 365 Customer Service and Dynamics 365 Field Service.

Retail store information
Adventure Works Cycle has one legal entity, four warehouses, and six field service technicians. Warehouse counting is performed manually by using a counting journal. All warehouse boxes and items are barcoded.

- Adventure Works Cycle has one legal entity, four warehouses, and six field service technicians.
- Warehouse counting is performed manually by using a counting journal. All warehouse boxes and items are barcoded.
- The Adventure Works Cycles retail location performs bicycle inspections and performance tune-ups.
- Technicians use paper forms to document the bicycle inspection performed before a tune-up and any additional work performed on the bicycle.
- Adventure Works Cycles uses a Power Apps app for local bike fairs to attract new customers.
- A canvas app is being developed to capture customer information when customers check in at the retail location. The app has the following features:
  - Customer selects yes or no if they are on the mailing list.
  - Customer selects the amount of times they have visited the store.
  - Customer selects the type of service needed.
  - The search result returns all last name records that match the search term.

Technology

Requirements

- A plug-in for Dynamics 365 Sales automatically calculated the total billed time from all activities on a particular customer account, including sales representative visits, phone calls, email correspondence, and repair time compared with hours spent.
- A shipping API displays shipping rates and tracking information on sales orders. The contract allows for 3,000 calls per month.
- Ecommerce orders are processed in batch daily by using a manual import of sales orders in Dynamics 365 Finance.
- Microsoft Teams is used for all collaboration.
- All testing and problem diagnostics are performed in a copy of the production environment.
- Customer satisfaction surveys are recorded with Microsoft Forms Pro. Survey replies from customers are sent to a generic mailbox.

Automation

- A text message must be automatically sent to a customer to confirm an appointment and to notify when a technician is on route that includes their location.
- Ecommerce sales orders must be integrated into Dynamics 365 Finance and then exported to Azure every night.
- A text alert must be sent to employees scheduled to assist in the repair area of the retail store if the number of repair check-ins exceeds eight.
- Submitted customer surveys must generate an email to the correct department. Approval and follow-up must occur within a week.

Reporting

- The warehouse manager’s dashboard must contain warehouse counting variance information.
- A warehouse manager needs to quickly view warehouse KPIs by using a mobile device.
- Power BI must be used for reporting across the organization.

User experience

- Warehouse counting must be performed by using a mobile app that scans barcodes on boxes.
- All customer repairs must be tracked in the system no matter where they occur.
- Qualified leads must be collected from local bike fairs.

Issues

- Warehouse counting must be performed by using a mobile app that scans barcodes on boxes.
- All customer repairs must be tracked in the system no matter where they occur.
- Qualified leads must be collected from local bike fairs.

Internal

- User1 reports receives an intermittent plug-in error when viewing the total bill customer time.
- User2 reports that Azure consumption for API calls has increased significantly to 100 calls per minute in the last month.
- User2 reports that sales orders have increased.
- User5 receives the error message: ‘Endpoint unavailable’ during a test of the technician dispatch ISV solution.
- The parts department manager who is the approver for the department is currently on sabbatical.

External

- CustomerB reports that the check-in app returned only one search result for their last name, which is not the correct name.
- Nine customers arrive in the repair area of the retail store, but no texts were sent to scheduled employees.
- Customers report that the response time from the information email listed on the Adventure Works Cycles website is greater than five days.
- CustomerC requested additional information from the parts department through the customer survey and has not received a response one week later.
-

QUESTION: 1
You need to identify the execution mode that is being used for the ISV solution reported by User5. Which type of execution mode is in use?

A. asynchronous
B. atomicity
C. transfer
D. synchronous

Answer(s): D

Explanation:
User5 receives the error message: ‘Endpoint unavailable’ during a test of the technician dispatch ISV solution.

When you choose to use a synchronous execution mode any failure will be reported back to the user of the application with an Endpoint unavailable error dialog informing the user that the webhook service endpoint may be configured incorrectly or is not available.

Reference:
https://docs.microsoft.com/en-us/powerapps/developer/common-data-service/use-webhooks

Exam Topic: Develop integrations questions

QUESTION: 1
HOTSPOT
A company must copy customer account data changes from a Common Data Service (CDS) instance into an external system.

Azure Storage Queues are used to pass the changes from CDS to the external system. You have the following code. (Line numbers are included for reference only.)

```
string token = null;
token = ProcessAccountChanges(_service, token, changeQueue, deleteQueue);
…
token = ProcessAccountChanges(_service, token, changeQueue, deleteQueue);
…
private static string ProcessAccountChanges(IOrganizationService orgservice,
string token, Cloud Queue changeQueue, CloudQueue deleteQueue)
{
  var request = new RetrieveEntityChangeRequest();
  request.EntityName = "account";
  request.Columns = new ColumnSet("name", "accountnumber", "creditlimit",
"ownerid");
  request.DataVersion = token;
  RetrieveEntityChangeResponse response = (RetrieveEntityChangeResponse)
orgservice.Execute(request);
  token = response.EntityChanges.DataToken;
  foreach (var change in response.EntityChanges.Changes)
  {
  if (change.Type == ChangeType.NewOrUpdated)
  {
   var changedItem = (NewOrUpdatedItem)change;
  Entity newOrChangedEntity = (Entity)changedItem.NewOrUpdatedEntity;
  CloudQueueMessage changemessage = new CloudQueueMessage
(newOrChangedEntity.Id.ToString());
  changeQueue.AddMessage(changemessage);
  }
  else if (change.Type == ChangeType.RemoveOrDeleted)
 {
  var deleteditem = (RemoveOrDeletedItem) change;
  EntityReference deletedEntityReference = deleteditem.RemovedItem;
  CloudQueueMessage deletemessage = new CloudQueueMessage
(deletedEntityReference.Id.ToString());
  deleteQueue.AddMesaage(deletemessage);
      }
 }
 return token;
}
```

For each of the following statements, select Yes if the statement is true. Otherwise, select No.
NOTE: Each correct selection is worth one point.
Hot Area:

Exhibit A:

Answer Area

Statement	Yes	No
The first call to ProcessAccountChanges at line 2 adds changes made to account records to the storage queues.		
The second call to ProcessAccountChanges at line 4 adds changes made to account records to the storage queues.		
The messages in changeQueue specify whether the accounts are new or updated.		
A message is added to deleteQueue if an account is created and subsequently deleted at line 3.		

Exhibit B:

Answer Area

Statement	Yes	No
The first call to ProcessAccountChanges at line 2 adds changes made to account records to the storage queues.		
The second call to ProcessAccountChanges at line 4 adds changes made to account records to the storage queues.		
The messages in changeQueue specify whether the accounts are new or updated.		
A message is added to deleteQueue if an account is created and subsequently deleted at line 3.		

A. Please refer to Exhibit B for the answer.

Answer(s): A

Explanation:
Box 1: Yes
Box 2: Yes
Box 3: No
Either new/updated or removed/deleted.
Box 4: Yes

QUESTION: 2
HOTSPOT
A company updates their client contact information periodically. The contact entity has alternate keys defined. You have the following code. (Line numbers are included for reference only.)

```
1. Entity contact = new Entity()
2. {
3.   LogicalName = "contact",
4.   KeyAttributes =
5.   {
6.     {"lastname", "Smith"},
7.     {"clientnumber", "abc123"}
8.    }
9.  },
10 contact["lastname"] = "Doe";
11. UpsertRequest updcontact = new UpsertRequest ();
12. {
13.   Target = contact;
14.  }
15. UpsertResponse response = ( UpsertResponse )service.Execute(updcontact);
```

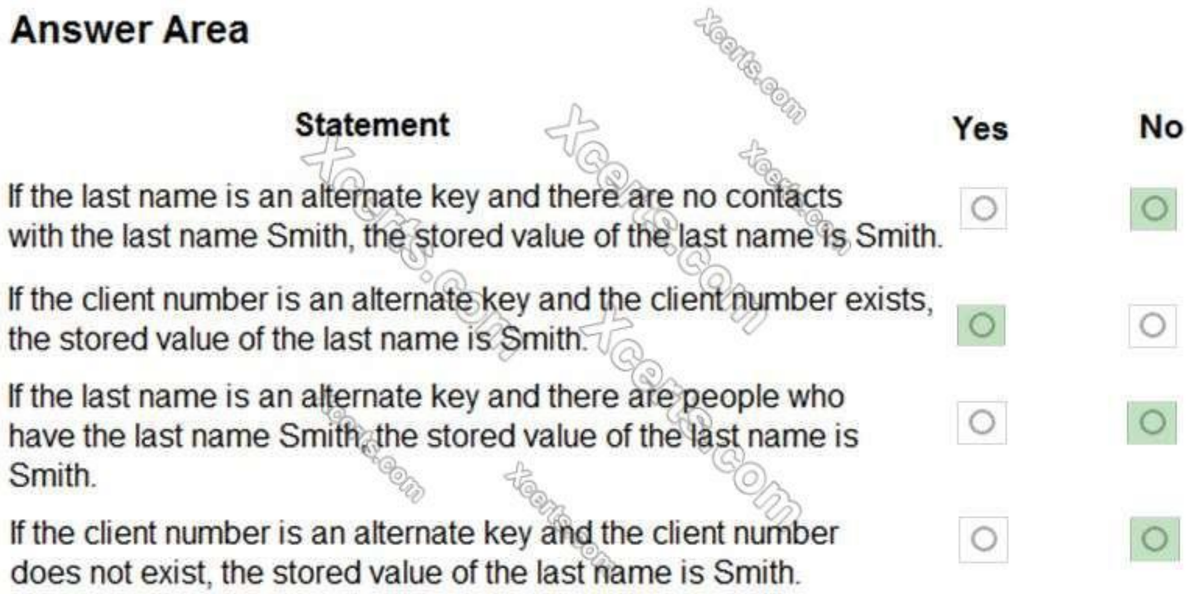
For each of the following statements, select Yes if the statement is true. Otherwise, select No.
NOTE: Each correct selection is worth one point.
Hot Area:

Exhibit A:

Answer Area

Statement	Yes	No
If the last name is an alternate key and there are no contacts with the last name Smith, the stored value of the last name is Smith.	○	○
If the client number is an alternate key and the client number exists, the stored value of the last name is Smith.	○	○
If the last name is an alternate key and there are people who have the last name Smith, the stored value of the last name is Smith.	○	○
If the client number is an alternate key and the client number does not exist, the stored value of the last name is Smith.	○	○

Exhibit B:



Answer Area

Statement	Yes	No
If the last name is an alternate key and there are no contacts with the last name Smith, the stored value of the last name is Smith.		
If the client number is an alternate key and the client number exists, the stored value of the last name is Smith.		
If the last name is an alternate key and there are people who have the last name Smith, the stored value of the last name is Smith.		
If the client number is an alternate key and the client number does not exist, the stored value of the last name is Smith.		

A. Please refer to Exhibit B for the answer.

Answer(s): A

Reference:
https://docs.microsoft.com/en-us/powerapps/developer/common-data-service/use-alternate-key-create-record

QUESTION: 3
HOTSPOT
A company is building a new model-driven app.

The app must integrate with a number of on-premises and cloud solutions. No VPNs are in place. You need to determine the method for each integration.

Which methods should you use? To answer, select the appropriate options in the answer area.
NOTE: Each correct selection is worth one point.
Hot Area:

Exhibit A:

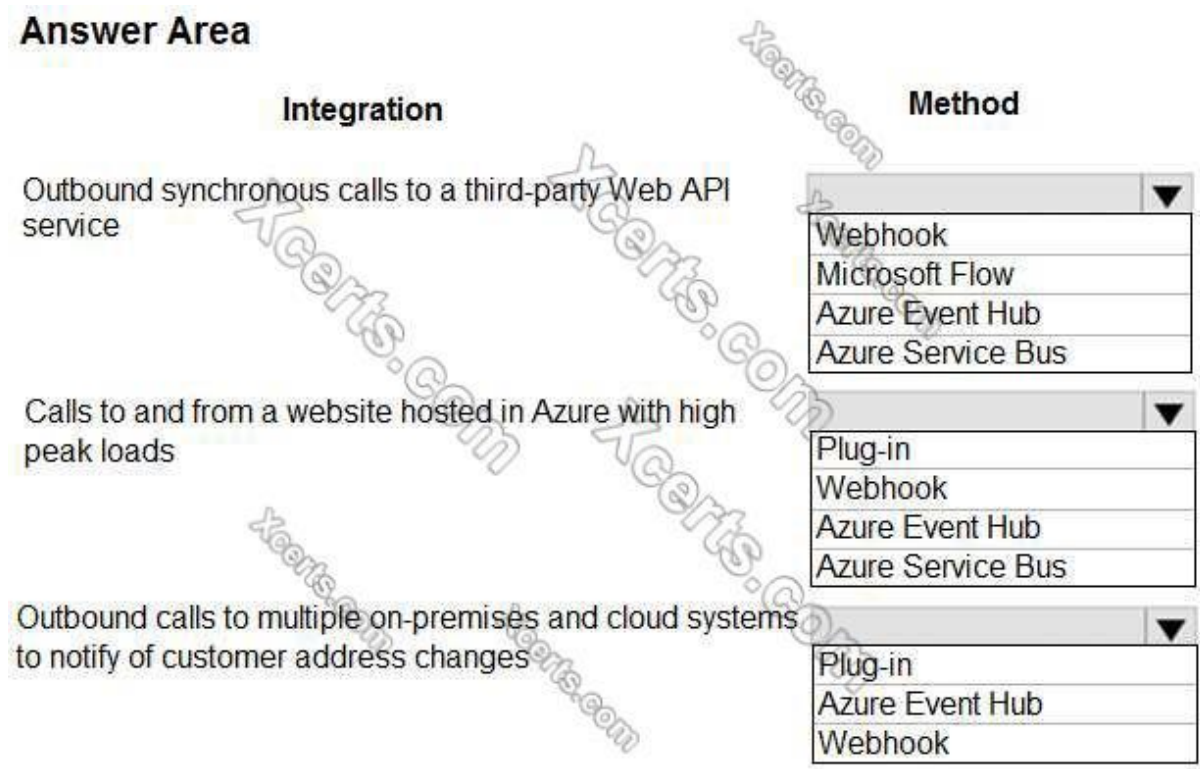
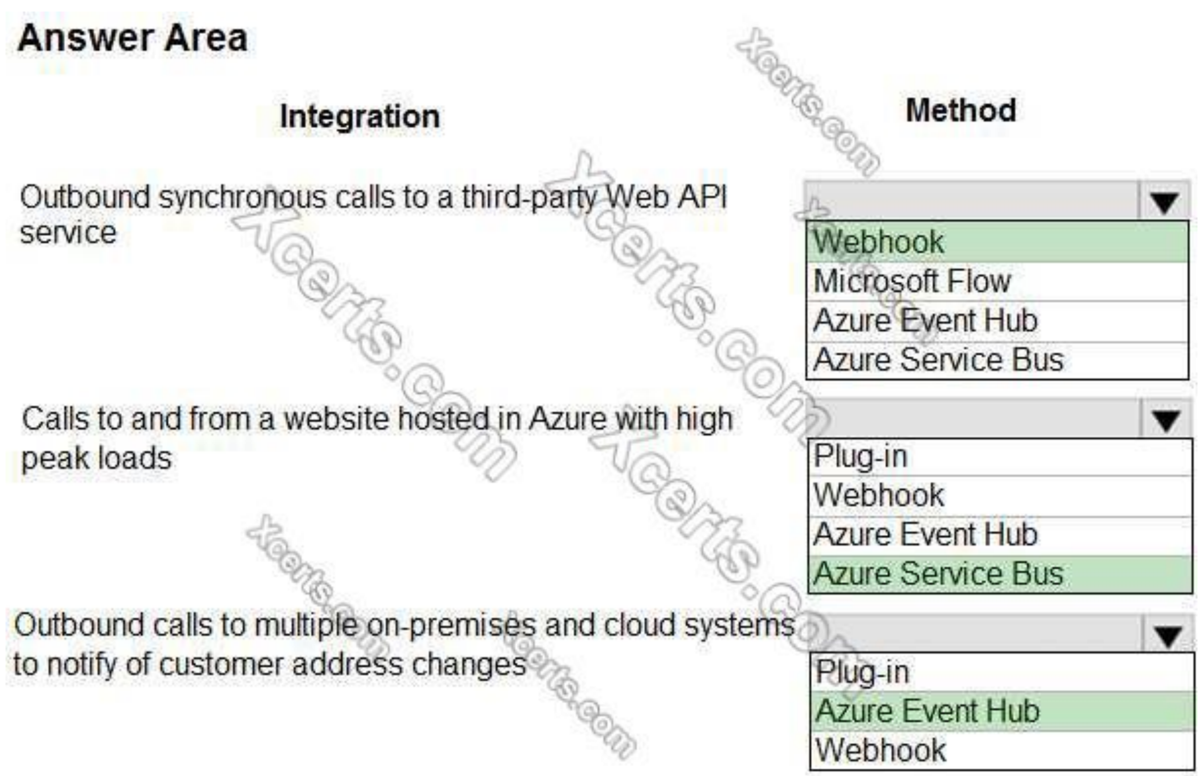


Exhibit B:



A. Please refer to Exhibit B for the answer.

Answer(s): A

Explanation:
Box 1: Webhook
With Dataverse, you can send data about events that occur on the service to a web app by using webhooks. A webhook is a lightweight HTTP pattern for connecting web APIs and services with a publish-and-subscribe model. Webhook senders notify receivers about events by making requests to receiver endpoints with some information about the events.

Webhooks enable developers and ISVs to integrate Dataverse data with their own custom code hosted on external services.

Box 2: Azure Service Bus
Service Bus provides a secure and reliable communication channel between Dataverse runtime data and external, cloud-based line-of-business apps. This capability is especially useful in keeping disparate Dataverse systems or other Dataverse servers synchronized with business data changes.

Box 3: Azure Event hub
Azure Event Hubs is a big data streaming platform and event ingestion service. It can receive and process millions of events per second. Data sent to an event hub can be transformed and stored by using any real-time analytics provider or batching/storage adapters.

Note: The most popular approaches in Dataverse involve webhooks, Azure messaging (Service Bus, Event Hubs), Azure Logic Apps, or Power Automate.

Reference:
https://docs.microsoft.com/en-us/powerapps/maker/common-data-service/why-cds-any-type-app

QUESTION: 4
Note: This question is part of a series of questions that present the same scenario. Each question in the series contains a unique solution that might meet the stated goals. Some question sets might have more than once correct solution, while others might not have a correct solution.

After you answer a question in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.
You are designing a one-way integration from the Common Data Service to another system.

You must use an Azure Function to update the other system. The integration must send only newly created records to the other system. The solution must support scenarios where a component of the integration is unavailable for more than a few seconds to avoid data loss.
You need to design the integration solution.

Solution: Register a webhook in the Common Data Service that connects to the Azure Function. Register a step on the webhook which runs synchronously on the record’s Create message and in the post-operation stage.

Does the solution meet the goal?

A. Yes
B. No

Answer(s): B

Explanation:
Instead use asynchronous communication.

QUESTION: 5
Note: This question is part of a series of questions that present the same scenario. Each question in the series contains a unique solution that might meet the stated goals. Some question sets might have more than once correct solution, while others might not have a correct solution.

After you answer a question in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.

You are designing a one-way integration from the Common Data Service to another system.

You must use an Azure Function to update the other system. The integration must send only newly created records to the other system. The solution must support scenarios where a component of the integration is unavailable for more than a few seconds to avoid data loss.

You need to design the integration solution.

Solution: Register a service endpoint in the Common Data Service that connects to an Azure Service Bus queue.

Register a step at the endpoint which runs asynchronously on the record’s Create message and in the port- operation stage.

Configure the Azure Function to process records as they are added to the queue. Does the solution meet the goal?

A. Yes
B. No

Answer(s): A

Explanation:
Microsoft Dataverse supports integration with Azure.
For the Dataverse and Azure connection to work, there must be at least one solution in an Azure Service Bus solution account, where the solution contains one or more service endpoints.
For a queue endpoint contract, a listener doesn’t have to be actively listening.

Reference:
https://docs.microsoft.com/en-us/powerapps/developer/common-data-service/azure-integration

QUESTION: 6
Note: This question is part of a series of questions that present the same scenario. Each question in the series contains a unique solution that might meet the stated goals. Some question sets might have more than once correct solution, while others might not have a correct solution.

After you answer a question in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.

You are designing a one-way integration from the Common Data Service to another system.

You must use an Azure Function to update the other system. The integration must send only newly created records to the other system. The solution must support scenarios where a component of the integration is unavailable for more than a few seconds to avoid data loss.
You need to design the integration solution.

Solution: Configure the Azure Function with a timer trigger that runs every five minutes. The function will query the Common Data Service and process records created in the last five minutes. Does the solution meet the goal?

A. Yes
B. No

Answer(s): B

Explanation:
Instead use Azure Service Bus queue solution with asynchronous communication.

Reference:
https://docs.microsoft.com/en-us/powerapps/developer/common-data-service/azure-integration

QUESTION: 7
DRAG DROP
An organization uses plug-in to retrieve specific information from legacy data stores each time a new order is submitted.

You review the Common Data Service analytics page. The average plug-in execution time is increasing.

You need to replace the plug-in with another component, reusing as much of the current plug-in code as possible.

Which five actions should you perform in sequence? To answer, move the appropriate actions from the list of actions to the answer area and arrange them in the correct order.

Select and Place:

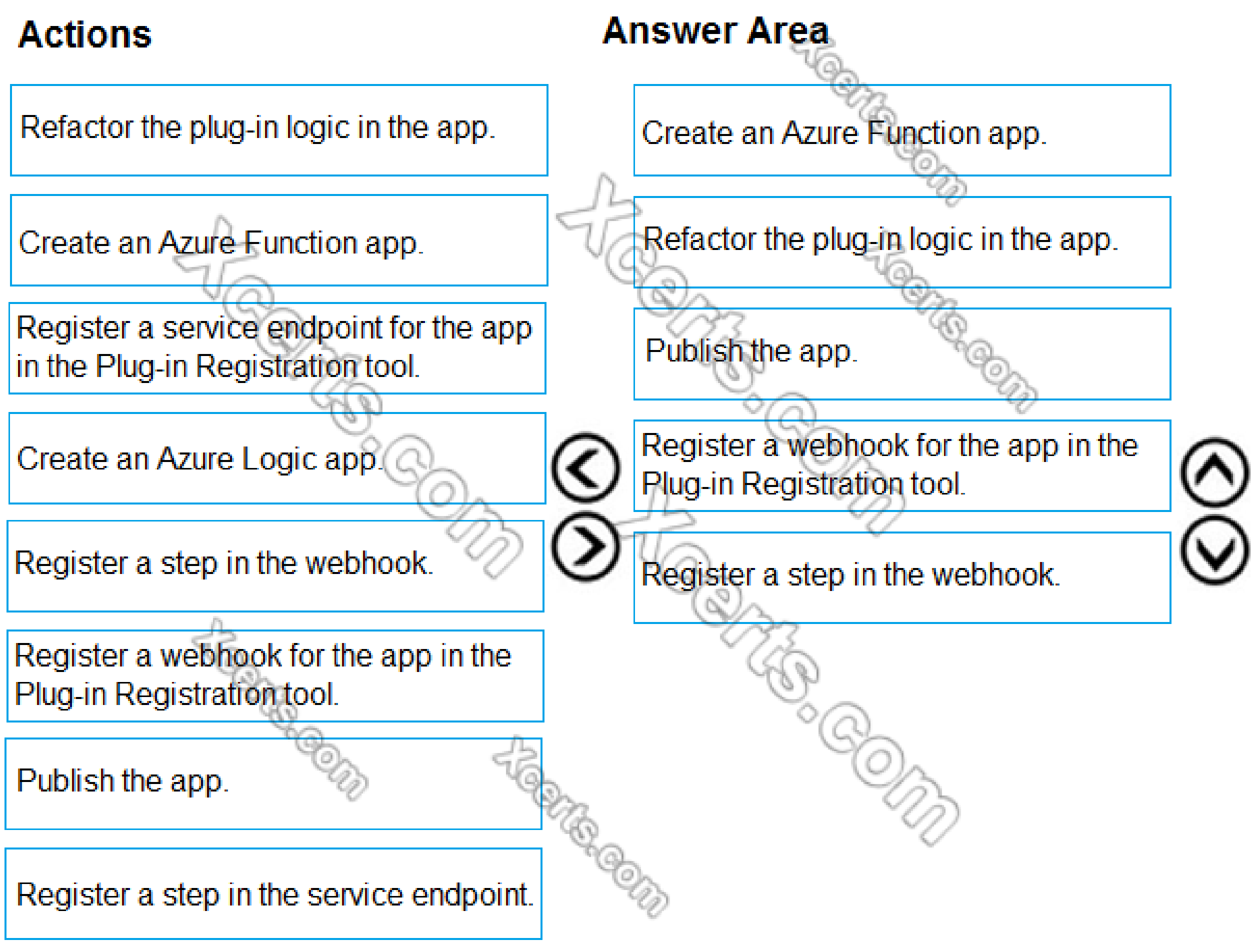
Exhibit A:

Actions

- Refactor the plug-in logic in the app.
- Create an Azure Function app.
- Register a service endpoint for the app in the Plug-in Registration tool.
- Create an Azure Logic app.
- Register a step in the webhook.
- Register a webhook for the app in the Plug-in Registration tool.
- Publish the app.
- Register a step in the service endpoint.

Answer Area

Exhibit B:



A. Please refer to Exhibit B for the answer.

Answer(s): A

Explanation:
Step 1: Create an Azure Function app
Azure Functions provide an excellent way to deliver a solution using WebHooks.
Step 2: Refactor the plug-in logic in the app.
Step 3: Publish the app
You can publish your function app to Azure directly from Visual Studio.

Step 4: Register a webhook for the app in the Plug-in Registration tool Use the Plug-in Registration tool to register a WebHook.

Step 5: Register a step in the webhook.
Registering a step for a WebHook is like registering a step for a plug-in.

Reference:
https://docs.microsoft.com/en-us/powerapps/developer/data-platform/use-webhooks
https://docs.microsoft.com/en-us/powerapps/developer/data-platform/register-web-hook

QUESTION: 8
DRAG DROP
You need to select the appropriate methods using Azure Event Grid.

Which method should you use for each requirement? To answer, drag the appropriate methods to the correct requirements. Each method may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.

NOTE: Each correct selection is worth one point.
Select and Place:

Exhibit A:

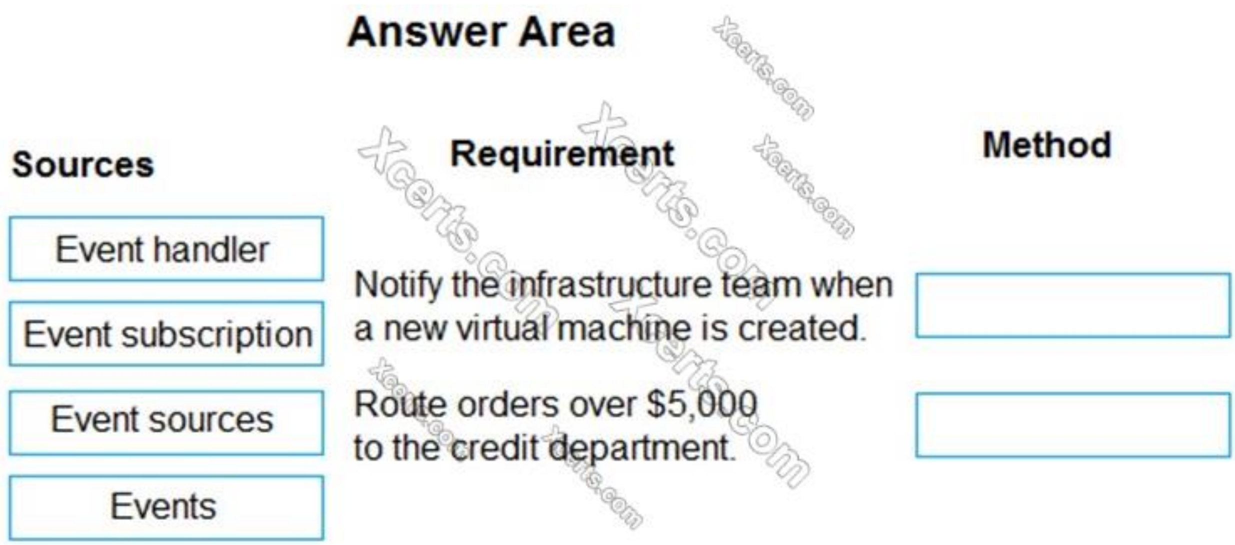
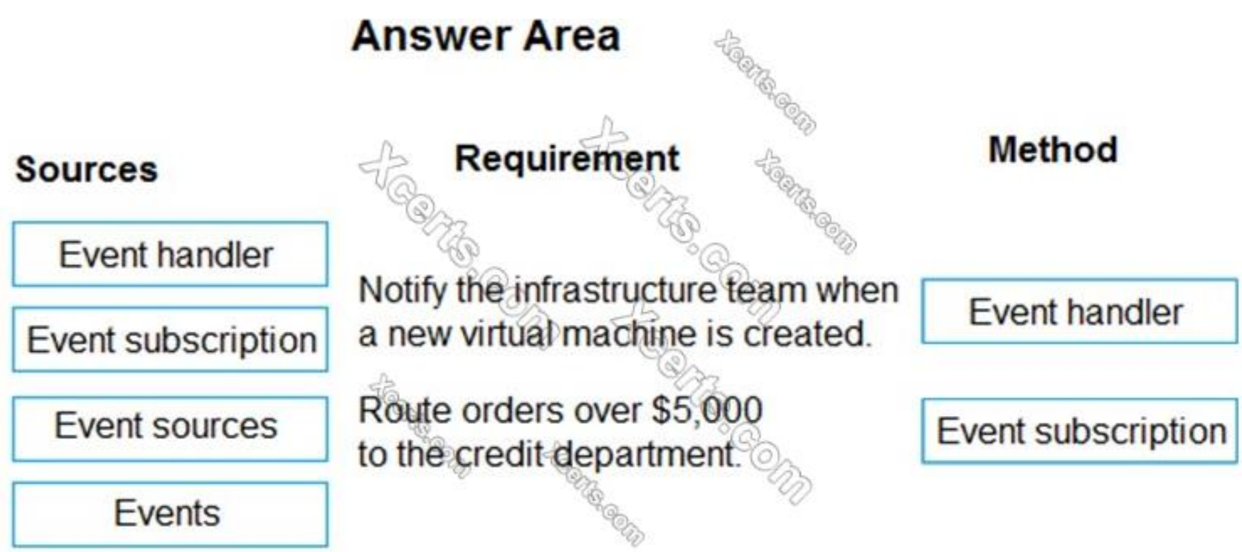


Exhibit B:



A. Please refer to Exhibit B for the answer.

Answer(s): A

Explanation:
Box 1: Event handler
An event handler is the place where the event is sent. The handler takes some further action to process the event.

Box 2: Event subscription
Event subscriptions - The endpoint or built-in mechanism to route events, sometimes to more than one handler. Subscriptions are also used by handlers to intelligently filter incoming events.

Incorrect Answers:
Events - What happened.
Event sources - Where the event took place.

Reference:
https://docs.microsoft.com/en-us/azure/event-grid/event-handlers
https://docs.microsoft.com/en-us/azure/event-grid/overview

QUESTION: 9
HOTSPOT
You create a Power Platform solution to track purchasing requirements for bills of material (BOMs) and their subcomponents.

The solution must meet the following requirements:

- Ensure that the BOMs are enabled to include the necessary subcomponents.
- Report changes to the BOMs or their sub-components that are made by engineers.

You need to configure the solution.

What should you do to meet each requirement? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.
Hot Area:

Exhibit A:

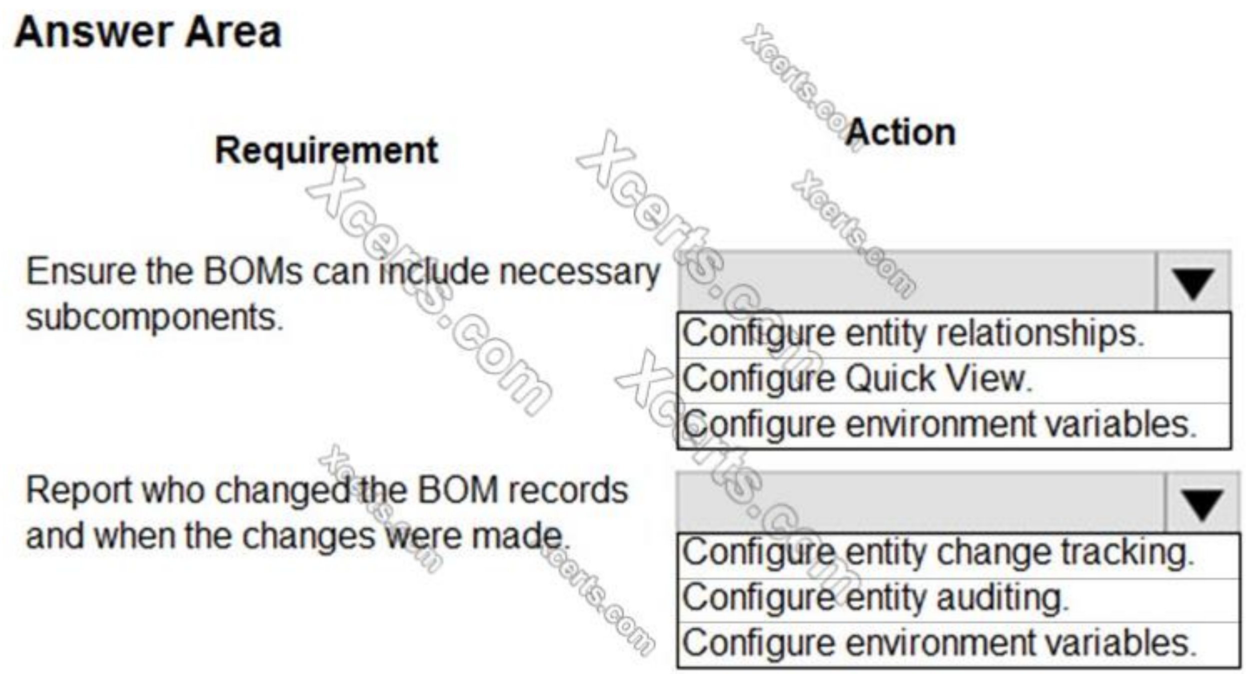
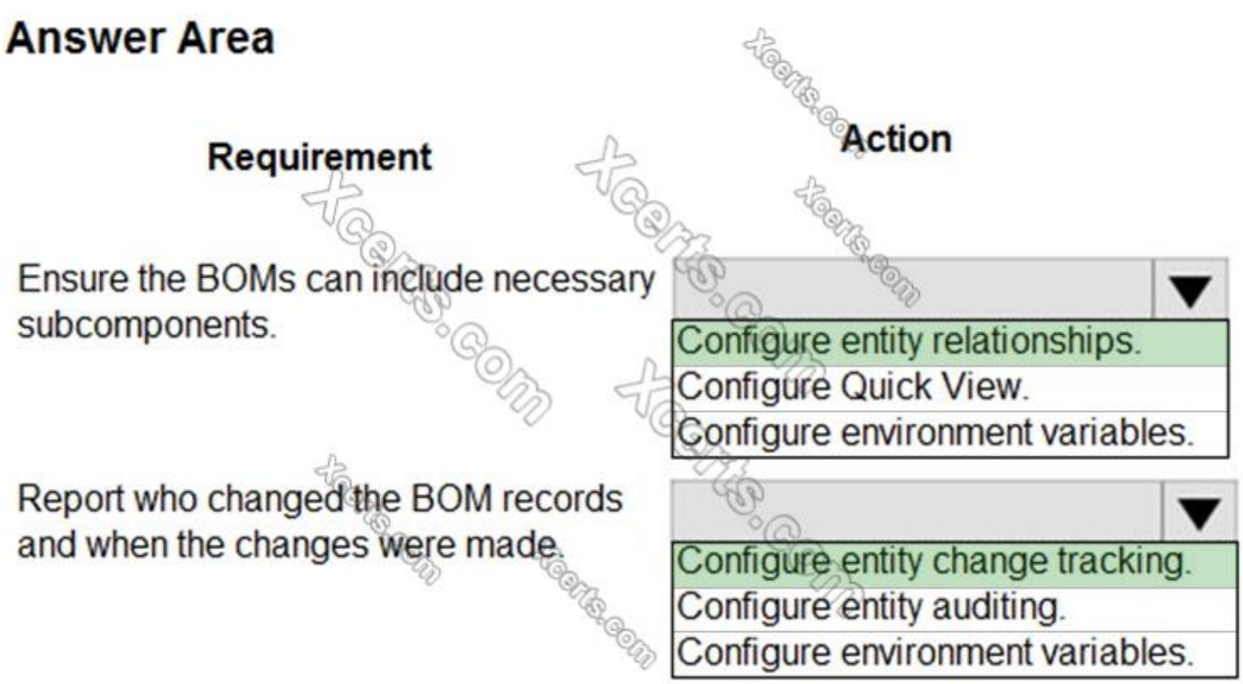


Exhibit B:



A. Please refer to Exhibit B for the answer.

Answer(s): A

Explanation:
Box 1: Configure entity relationship Box 2: Configure entity change tracking

The change tracking feature in Microsoft Dataverse provides a way to keep the data synchronized in an efficient manner by detecting what data has changed since the data was initially extracted or last synchronized. Previously, without this new feature, it was difficult to build a reliable and efficient mechanism to determine what records had changed in Dataverse.

Reference:
https://docs.microsoft.com/en-us/powerapps/developer/data-platform/use-change-tracking-synchronize-data-external-systems

QUESTION: 10
Note: This question is part of a series of questions that present the same scenario. Each question in the series contains a unique solution that might meet the stated goals. Some question sets might have more than once correct solution, while others might not have a correct solution.

After you answer a question in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.

You are designing a one-way integration from the Common Data Service to another system.

You must use an Azure Function to update the other system. The integration must send only newly created records to the other system. The solution must support scenarios where a component of the integration is unavailable for more than a few seconds to avoid data loss. You need to design the integration solution.
Solution: Register a service endpoint in the Common Data Service that connects to an Azure Service Bus queue.

Create and register an Azure-aware plug-in that uses the service endpoint.
Register a step on the plug-in that runs asynchronously on the record’s Create message and in the post- operation stage.

Configure the Azure Function to process records as they are added to the queue. Does the solution meet the goal?

A. Yes
B. No

Answer(s): A

Explanation:
Plug-ins are one of two methods used to initiate posting the message containing the data context to the Azure Service Bus, the other method being a custom workflow activity.

Note: Microsoft Dataverse supports integration with Azure.
For the Dataverse and Azure connection to work, there must be at least one solution in an Azure Service Bus solution account, where the solution contains one or more service endpoints.
For a queue endpoint contract, a listener doesn’t have to be actively listening.

Reference:
https://docs.microsoft.com/en-us/powerapps/developer/common-data-service/azure-integration

QUESTION: 11
HOTSPOT
You create an alternate key named AlternateKey1 on the Account entity. The definition for AlternateKey1 is shown in the following exhibit:

Use the drop-down menus to select the answer choice that answers each question based on the information presented in the graphic.

NOTE: Each correct selection is worth one point.
Hot Area:

Exhibit A:

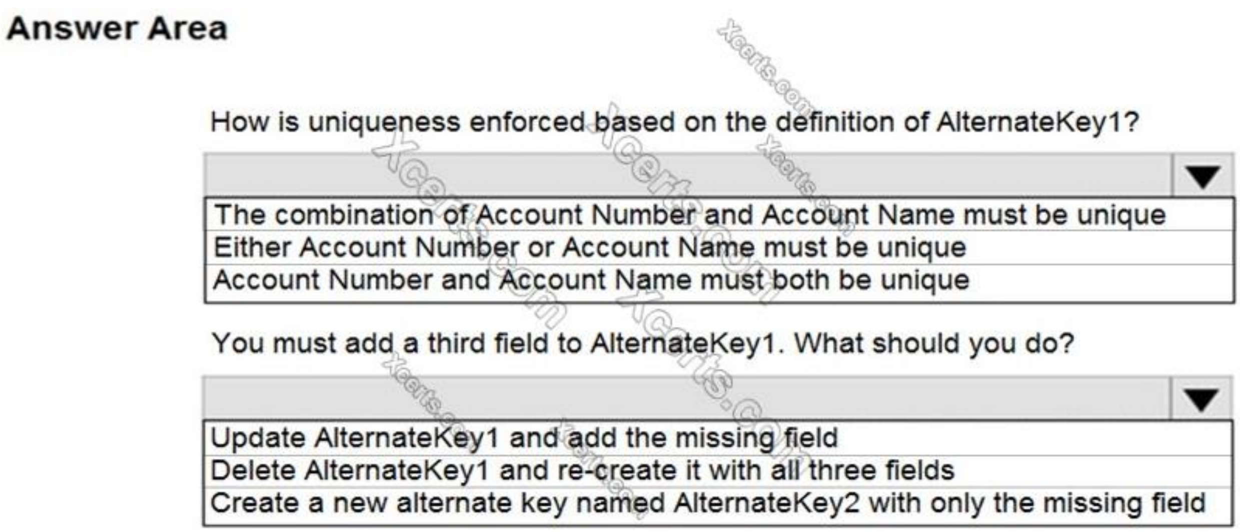
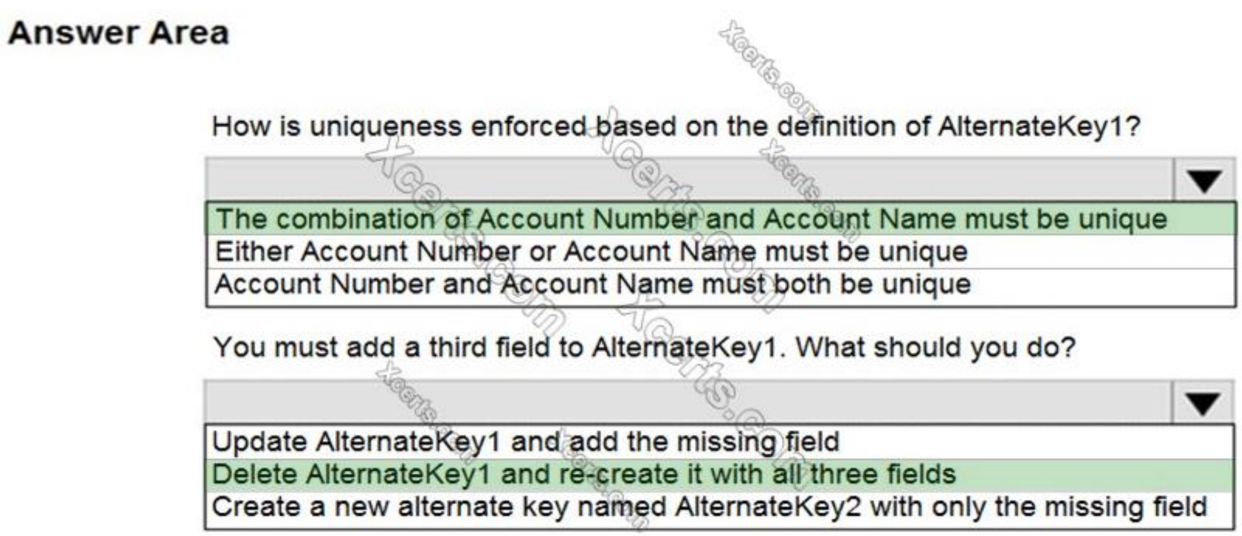


Exhibit B:



A. Please refer to Exhibit B for the answer.

Answer(s): A

Explanation:
Box 1: The combination of Account Number and Account Name must be unique
With alternate keys you can now define a column in a Dataverse table to correspond to a unique identifier or unique combination of columns.
Box 2: Delete AlternateKey1 and re-create it with all three fields

Reference:
https://docs.microsoft.com/en-us/powerapps/developer/data-platform/define-alternate-keys-entity

QUESTION: 12
HOTSPOT
A delivery service uses a canvas app to track and deliver packages. The app uses SQL Server as a data store. The database includes the following tables:

Table	Comments
Receivers	Stores information about customers who receive delivered goods. The table uses an identity column named SBsqlid to uniquely identify each record.
Packages	Stores information about package details. Employees update package details during delivery to reference the person who received the package.

The app includes the following code to save all required information. (Line numbers are included for reference only.)

```
ClearCollect(
  Result,
    Patch(
      Receivers,
      Defaults(Receivers),
      {
         SignedByFN: txtInFirstName.Text,
         SignedByID: txtInID.Text
      }
    )
 );
 Patch(
   Packages,
   Defaults(Packages),
   {
     SBsqlid: First(Result).SBsqlid,
     TrackingNo: lblPackage.Text
   }
 );
```

For each of the following statements, select Yes if the statement is true. Otherwise, select No.
NOTE: Each correct selection is worth one point.
Hot Area:

Exhibit A:

Answer Area

	Yes	No
The Patch statement populates the identity column when a record is created.	○	○
The Patch statement at line 03 creates a reference to the customer who received a specific package.	○	○
You must add a lookup function to ensure that the code correctly creates a reference to the customer who receives a package.	○	○
The Patch statement at line 12 merges records.	○	○

Exhibit B:

Answer Area

	Yes	No
The Patch statement populates the identity column when a record is created.	●	○
The Patch statement at line 03 creates a reference to the customer who received a specific package.	○	●
You must add a lookup function to ensure that the code correctly creates a reference to the customer who receives a package.	●	○
The Patch statement at line 12 merges records.	●	○

A. Please refer to Exhibit B for the answer.

Answer(s): A

Explanation:
The ClearCollect function deletes all the records from a collection. Syntax: ClearCollect(Collection, Item, ...)

Collection – Required. The collection that you want to clear and then add data to. Item(s) - Required. One or more records or tables to add to the data source.

Box 1: Yes
The Patch function in Power Apps modifies or creates one or more records in a data source, or merges records outside of a data source.
Use Patch with the Defaults function to create records.

Box 2: No
The return value of Patch is the record that you modified or created. If you created a record, the return value may include properties that the data source generated automatically. However, the return value doesn't provide a value for fields of a related table.

For example, you use Set(MyAccount, Patch(Accounts, First(Account), 'Account Name': "Example name"); and then MyAccount.'Primary Contact'.'Full Name'. You can't yield a full name in this case. Instead, to access the fields of a related table, use a separate lookup such as:
LookUp(Accounts, Account = MyAccount.Account).'Primary Contact'.'Full Name

Box 3: Yes

Box 4: Yes
Merge records outside of a data source.
Specify two or more records that you want to merge. Records are processed in the order from the beginning of the argument list to the end, with later property values overriding earlier ones. Patch returns the merged record and doesn't modify its arguments or records in any data sources.

Reference:
https://docs.microsoft.com/en-us/powerapps/maker/canvas-apps/functions/function-clear-collect-clearcollect