# **Practice Test - 6 (Hard) - Results**

Question 1 Skipped In a scenario where you need to manage access, policies, and compliance for multiple subscriptions, which Azure service would you use?	
Azure resource groups	
Explanation  Azure resource groups are containers that hold related resources for an Azure solution. While resource groups help you organize and manage resources within a subscription, they are not designed for managing access, policies, and compliance across multiple subscriptions. Azure management groups are better suited for this purpose.	
O Azure Entra ID	
Correct answer  Azure management groups	
Explanation  Azure management groups are used to manage access, policies, and compliance for multiple subscriptions in a hierarchical manner. By organizing subscriptions into management groups, you can apply policies and access controls at the management group level, which will be inherited by all subscriptions within that group.	
Azure subscriptions	
Explanation	

Azure subscriptions are individual billing units that provide access to Azure services. While you can apply policies and access controls at the subscription level, managing access, policies, and

compliance for multiple subscriptions would be more efficiently handled at a higher level using Azure management groups.

#### Overall explanation

Azure management groups is the correct answer.

In a scenario where you need to manage access, policies, and compliance for multiple subscriptions, you would use Azure management groups. Management groups provide a level of scope above subscriptions, allowing you to organize subscriptions into containers and apply governance conditions to the management groups. All subscriptions within a management group automatically inherit the conditions applied to the management group.

Other options -

- Azur Entra ID: While Azure Entra ID is used for identity and access management, it does not directly manage policies and compliance for multiple subscriptions.
- Azure subscriptions: Subscriptions are a unit of management, billing, and scale in Azure, but they do not provide a higher level of scope for managing multiple subscriptions.
- Azure resource groups: Resource groups are used to organize resources within a subscription, but they do not provide a higher level of scope for managing multiple subscriptions.

**Reference:** https://learn.microsoft.com/en-us/training/modules/describe-core-architectural-components-of-azure/6-describe-azure-management-infrastructure

#### **Domain**

Describe Azure management and governance (30–35%)

Which of the following is an example of an Azure Application Platform?
○ Azure DNS
Explanation  Azure DNS is not an example of an Azure Application Platform. It is a domain name system (DNS) hosting service that provides name resolution using Microsoft Azure infrastructure.
Azure Load Balancer
Explanation  Azure Load Balancer is not an example of an Azure Application Platform. It is a networking service that distributes incoming network traffic across multiple servers to ensure high availability and reliability of applications hosted on Azure.
Correct answer  Azure App service
Explanation  Azure App Service is an example of an Azure Application Platform that allows developers to build, deploy, and scale web applications and APIs. It provides a fully managed platform for hosting various types of applications, including web apps, mobile backends, and RESTful APIs.
Azure Firewall
<b>Explanation</b> Azure Firewall is not an example of an Azure Application Platform. It is a managed network security service that provides network traffic filtering and protection for virtual networks in Azure.
O Azura Casha far Padia
Azure Cache for Redis

#### **Explanation**

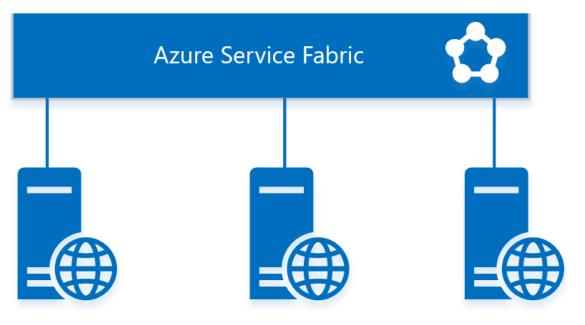
Azure Cache for Redis is not an example of an Azure Application Platform. It is a fully managed, in-memory data store service that can be used as a caching solution to improve the performance and scalability of applications.

#### Overall explanation

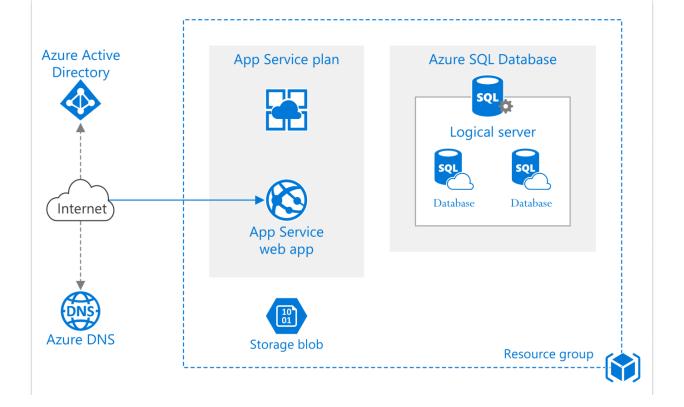
#### From the Official Azure Documentation:

**Azure App Service** is an HTTP-based service for hosting web applications, REST APIs, and mobile back ends. You can develop in your favorite language, be it .NET, .NET Core, Java, Ruby, Node.js, PHP, or Python. Applications run and scale with ease on both Windows and Linux-based environments. For Linux-based environments, see App Service on Linux.





Using Azure App Service, it is also possible to scale apps on an enterprise grade platform:



Reference: https://docs.microsoft.com/en-us/azure/app-service/overview

#### Domain

Describe Azure architecture and services (35–40%)

# Question 3 Skipped

Which of the following would you use to deploy and manage containerised applications to provide an integrated continuous integration and continuous delivery (CI/CD) experience and enterprise-grade security and governance.

#### Azure Batch

#### **Explanation**

Azure Batch is a cloud-based job scheduling service that allows you to run large-scale parallel and high-performance computing (HPC) applications efficiently. While it can be used for batch processing tasks, it is not specifically designed for deploying and managing containerized applications in a CI/CD pipeline with integrated security and governance.

Azure Container Instances
Explanation  Azure Container Instances (ACI) is a managed Azure service that allows you to run containers without managing the underlying infrastructure. While ACI is suitable for quickly deploying containers, it lacks the advanced orchestration and management capabilities provided by Azure Kubernetes Service (AKS) for a comprehensive CI/CD experience with enterprise-grade security and governance.
Correct answer  Azure Kubernetes
Explanation  Azure Kubernetes Service (AKS) is the correct choice for deploying and managing containerized applications in a CI/CD pipeline. AKS provides a fully managed Kubernetes service that offers enterprise-grade security, governance, and scalability. It allows you to orchestrate and automate the deployment of containers, making it an ideal solution for CI/CD workflows.
O Azure Functions
Explanation  Azure Functions are serverless compute services that allow you to run event-triggered code without managing infrastructure. While they are suitable for small, event-driven applications, they are not the ideal choice for deploying and managing containerized applications in a CI/CD pipeline with enterprise-grade security and governance.
Overall explanation From the Official Azure Documentation:
You can deploy and manage containerised applications more easily with a fully managed Kubernetes service. Azure Kubernetes Service (AKS) offers serverless Kubernetes, an

integrated continuous integration and continuous delivery (CI/CD) experience and enterprise-

grade security and governance. You can also unite your development and operations teams on a single platform to rapidly build, deliver and scale applications with confidence.

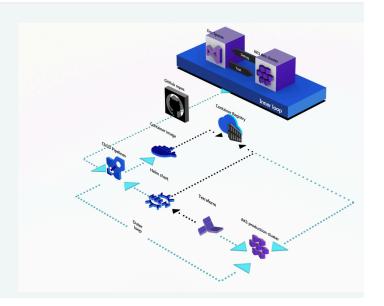
# Accelerate containerised application development

Easily define, deploy, debug and upgrade even the most complex Kubernetes applications and automatically containerise your applications. Develop and test microservices-based applications without mocking up dependencies using <a href="Dev Spaces">Dev Spaces</a>.

Add a full CI/CD pipeline to your AKS clusters with automated routine tasks and set up a canary deployment strategy in just a few clicks. Detect failures early and optimise your pipelines with deep traceability into your deployments.

Gain visibility into your environment with control-plane telemetry, log aggregation and container health, accessible in the Azure portal and automatically configured for AKS clusters.

Review DevOps fundamentals >



**Reference:** https://azure.microsoft.com/en-in/services/kubernetes-service/#features

#### Domain

Describe Azure architecture and services (35–40%)

# Question 4 Skipped

helps you estimate the cost savings of operating your solution on Azure over time compared to operating in your on-premises datacenter.

# Azure Pricing Calculator

#### **Explanation**

The Azure Pricing Calculator allows you to estimate the cost of Azure services based on your usage and requirements. While it helps in understanding the pricing of Azure services, it does not provide a direct comparison of cost savings between operating on Azure versus onpremises datacenters.

**Correct answer** 

Azure reo calculator
Explanation  The Azure TCO Calculator is specifically designed to help estimate the total cost of ownership (TCO) of running your solution on Azure compared to an on-premises datacenter. It takes into account various factors such as hardware, software, electricity, cooling, and labor costs to provide an accurate estimate of cost savings over time.
Azure Advisor
Explanation  Azure Advisor provides recommendations to optimize your Azure resources for performance, security, and cost. While it can offer insights into cost optimization strategies, it does not specifically focus on estimating cost savings compared to on-premises datacenters.
Azure Blueprints
Explanation  Azure Blueprints is a service that helps in deploying and managing Azure environments through a repeatable set of resources. It is not designed to estimate cost savings or compare the costs of operating solutions on Azure versus on-premises datacenters.
Overall explanation From the Official Azure Documentation:
The <u>TCO Calculator</u> helps you estimate the cost savings of operating your solution on Azure over time compared to operating in your on-premises datacenter.
The term <i>total cost of ownership</i> is used commonly in finance. It can be hard to see all the hidden costs related to operating a technology capability on-premises. Software licenses and hardware are additional costs.
With the TCO Calculator, you'll enter the details of your on-premises workloads. Then you can

review the suggested industry-average cost (which you can adjust) for related operational

costs. These costs include electricity, network maintenance, and IT labor. You're then

presented with a side-by-side report. Using the report, you can compare those costs with the same workloads running on Azure.
Reference: https://docs.microsoft.com/en-ca/learn/modules/plan-manage-azure-costs/2-compare-costs-tco-calculator
<b>Domain</b> Describe Azure management and governance (30–35%)
Question 5 Skipped What are the two types of subscription boundaries that you can use in Azure?
☐ Geographical boundary
☐ Organizational boundary
Correct selection  Billing boundary

# Overall explanation

☐ Access control boundary

In Azure, you can use two types of subscription boundaries:

1. **Billing boundary:** This subscription type determines how an Azure account is billed for using Azure. You can create multiple subscriptions for different types

of billing requirements. Azure generates separate billing reports and invoices for each subscription so that you can organize and manage costs.

2. Access control boundary: Azure applies access-management policies at the subscription level, and you can create separate subscriptions to reflect different organizational structures. An example is that within a business, you have different departments to which you apply distinct Azure subscription policies. This billing model allows you to manage and control access to the resources that users provision with specific subscriptions.

**Reference:** https://learn.microsoft.com/en-us/training/modules/describe-core-architectural-components-of-azure/6-describe-azure-management-infrastructure

Question 6 Skipped     Which of the following do Azure Arc-enabled servers allow you to do?	^
Manage and govern Azure Active Directory.	
Monitor Azure Logic Apps.	
O Deploy virtual machines in Azure regions.	
Correct answer	

# Overall explanation

**Azure Arc-enabled servers** allow you to extend Azure Resource Manager templates to on-premises environments. This enables consistent deployment and management practices across both cloud and on-premises resources.

Reference: https://learn.microsoft.com/en-us/azure/azure-arc/overview
Domain  Describe Azure architecture and services (35–40%)
Question 7 Skipped You want to set up separate environments for development and testing, and security in Azure. What would you create to achieve this?
Additional resource groups
Explanation  Creating additional resource groups in Azure allows you to organize and manage resources within a single subscription. While resource groups are useful for grouping related resources, they do not provide the isolation needed for separate environments for development, testing, and security.
Correct answer  Additional subscriptions
Explanation  Creating additional subscriptions in Azure allows you to have separate billing, access control, and resource isolation for different environments. This ensures that resources in each environment are completely separate, making it an ideal choice for setting up separate environments for development, testing, and security.
Additional management groups
Explanation  Additional management groups in Azure are used for organizing subscriptions and applying governance controls across multiple subscriptions. While management groups help in

managing access, policies, and compliance at scale, they do not provide the level of isolation required for separate environments for development, testing, and security.

#### Additional Azure accounts

#### **Explanation**

Creating additional Azure accounts would result in separate identities and billing for each account. However, managing multiple Azure accounts can be complex and may not be the most efficient way to set up separate environments for development, testing, and security. Using additional subscriptions within a single Azure account would be a more practical approach for this scenario.

#### Overall explanation

**Creating additional subscriptions** is a suitable approach for setting up separate environments for development and testing, and security in Azure. By having separate subscriptions for different environments, you can manage and control access to the resources provisioned within each subscription, and it helps you track costs and apply different accessmanagement policies more effectively.

#### Other options:

**Additional resource groups**: While resource groups help organize resources within a subscription, they don't provide the level of separation needed for different environments with distinct access-management policies and billing tracking. Resource groups are more suitable for organizing resources that have the same lifecycle and need the same access control settings.

**Additional management groups:** Management groups are used to organize subscriptions and apply governance conditions to them. Creating additional management groups would not directly create separate environments for development, testing, and security. They are more suited for organizing multiple subscriptions and applying consistent policies across them.

**Additional Azure accounts:** Azure accounts are associated with Azure Active Directory (Azure AD) identities and used for billing purposes. Creating additional Azure accounts doesn't directly create separate environments. It is the subscriptions within the accounts that determine the environments and access controls.

**Reference:** https://learn.microsoft.com/en-us/training/modules/describe-core-architecturalcomponents-of-azure/6-describe-azure-management-infrastructure Domain Describe Azure management and governance (30–35%) **Question 8 Skipped** Which of the following categories does Azure Kubernetes service belong to? Software as a service (SaaS) **Explanation** Azure Kubernetes Service (AKS) is not classified as Software as a Service (SaaS). SaaS products are fully managed applications that are typically accessed over the internet, while AKS is a platform for deploying and managing containerized applications using Kubernetes. Database as a service (DaaS) Explanation Azure Kubernetes Service (AKS) is not considered Database as a Service (DaaS). DaaS offerings provide managed database services, while AKS focuses on container orchestration and management using Kubernetes. AKS is more aligned with PaaS offerings for application deployment and management. Infrastructure as a service (laaS) Explanation Azure Kubernetes Service (AKS) does not fall under the Infrastructure as a Service (laaS) category. laaS typically involves virtualized computing resources like virtual machines, storage,

and networking, whereas AKS provides a managed Kubernetes service, which is a higher-level

abstraction than traditional laaS offerings.

Correct answer  O Platform as a service (PaaS)
Explanation
Azure Kubernetes Service (AKS) belongs to the Platform as a Service (PaaS) category. PaaS offerings provide a platform for developers to build, deploy, and manage applications without having to worry about the underlying infrastructure. AKS abstracts away the complexities of managing Kubernetes clusters, making it a PaaS solution.
Overall explanation
From the official Azure docs:
Azure Kubernetes Service (AKS) offers serverless Kubernetes, an integrated continuous integration and continuous delivery (CI/CD) experience, and enterprise-grade security and governance. This falls under the <b>PaaS</b> category!
Reference: https://azure.microsoft.com/en-us/services/kubernetes-service/
Domain
Describe cloud concepts (25–30%)
Question 9 Skipped
When you form a cloud center of excellence team or a cloud custodian team, that team can use Azure to scale their governance practices throughout the organization
Correct answer
○ Blueprints
Explanation

Azure Blueprints provide a way for cloud center of excellence teams or cloud custodian teams to define a repeatable set of Azure resources that adhere to organizational standards, patterns, and requirements. By using Azure Blueprints, these teams can quickly deploy and update a set of Azure resources and policies to scale their governance practices throughout the organization.

$\bigcirc$	Compliance			

# Subscriptions

#### **Explanation**

Subscriptions are containers for billing and access control purposes in Azure. While subscriptions play a key role in managing access and costs in Azure, they do not directly provide the governance scalability that Azure Blueprints offer. Subscriptions are more focused on resource billing and access control rather than governance practices.

# Resource Groups

#### Explanation

Resource Groups are containers that hold related resources for an Azure solution. While resource groups are important for organizing and managing resources, they do not provide the same level of governance scalability as Azure Blueprints. Resource Groups are more focused on resource management and isolation rather than governance practices.

# **Overall explanation**

#### From the Official Azure Documentation:

When you form a cloud center of excellence team or a cloud custodian team, that team can use Azure Blueprints to scale their governance practices throughout the organization.

Implementing a blueprint in Azure Blueprints involves these three steps:

- 1. Create an Azure blueprint.
- 2. Assign the blueprint.

3. Track the blueprint assignments.

With Azure Blueprints, the relationship between the blueprint definition (what should be deployed) and the blueprint assignment (what was deployed) is preserved. In other words, Azure creates a record that associates a resource with the blueprint that defines it. This connection helps you track and audit your deployments.

Blueprints are also versioned. Versioning enables you to track and comment on changes to your blueprint.

**Reference:** <a href="https://docs.microsoft.com/en-ca/learn/modules/build-cloud-governance-strategy-azure/8-govern-subscriptions-azure-blueprints">https://docs.microsoft.com/en-ca/learn/modules/build-cloud-governance-strategy-azure/8-govern-subscriptions-azure-blueprints</a>

#### Domain

Describe Azure management and governance (30–35%)

<ul> <li>Question 10 Skipped</li> <li>True or False: Data stored in an Azure Storage account is automatically copied twice.</li> </ul>	^
○ True	
Correct answer      False	

#### **Overall explanation**

This is False.

Azure Storage offers multiple redundancy options, including locally redundant storage (LRS), zone-redundant storage (ZRS), geo-redundant storage (GRS), and read-access geo-redundant storage (RA-GRS).

LRS and ZRS provide redundancy within a datacenter or within a **single** zone, respectively, and create **three** copies of the data. GRS and RA-GRS provide additional redundancy across multiple datacenters or regions, respectively, and create **six** copies of the data (three copies in the primary region and three copies in the secondary region).

Reference: https://docs.microsoft.com/en-us/azure/storage/common/storage-redundancy
<b>Domain</b> Describe Azure architecture and services (35–40%)
Question 11 Skipped ^
Which feature of Microsoft Entra ID External Identities enables customers to sign up, sign in, and manage their own profiles using social accounts?
Entra ID B2B Collaboration
Azure Multi-Factor Authentication
Correct answer  Correct answer  Entra ID B2C
Entra ID Domain Services
Overall explanation
Entra ID B2C is designed to handle customer identities and enables them to sign up, sign in, and manage their profiles using social accounts or other identity providers, enhancing their experience with your applications.
Reference: https://learn.microsoft.com/en-us/azure/active-directory/external-identities/external-identities-overview

However, none of these redundancy options provide only two copies of the data by default.

#### Domain

Describe Azure architecture and services (35–40%)

# Question 12 Skipped

Which of the following would you recommend for these given requirements?

- 1) Create thousands of identical virtual machines in minutes
- 2) Deploy across availability zones to protect against datacenter failures

#### Azure Container Instance

#### **Explanation**

Azure Container Instance is a service that allows you to run containers without managing the underlying infrastructure. It is not designed for creating and managing virtual machines, especially not at the scale of thousands in minutes, that too across AZs.

# Azure Blueprints

#### **Explanation**

Azure Blueprints are a service that helps with the deployment of Azure environments using a repeatable set of resources that conform to a pre-set blueprint. While they can help with deployment consistency, they are not specifically designed for creating thousands of identical virtual machines in minutes AZs.

# Azure Virtual Machines

#### **Explanation**

Azure Virtual Machines are individual virtual machines that need to be managed and scaled individually. While they can be used to create virtual machines, they are not as efficient or scalable as Virtual Machine Scale Sets for creating thousands of identical virtual machines in minutes and replicate across AZs.

Azure Resource Groups
Explanation  Azure Resource Groups are logical containers that hold related resources for an Azure solution.  They are not used for creating virtual machines or managing their scalability.
Correct answer  Azure Virtual Machine Scale Sets
Explanation  Azure Virtual Machine Scale Sets are designed specifically for creating and managing a group of identical virtual machines. They allow you to easily scale out to thousands of virtual machines in minutes and deploy them across availability zones for high availability.
Azure Kubernetes
Explanation  Azure Kubernetes is a container orchestration service that is used for managing containerized applications. While it can help with scaling and managing containers, it is not the ideal choice for creating thousands of identical virtual machines in minutes across AZs.
Overall explanation  According to the official website:
Azure Virtual Machine Scale Sets is Automated virtual machine scaling that helps you cost-effectively simplify the deployment, management, and availability of your applications.

- Create thousands of identical virtual machines in minutes
- Rely on integrated load balancing and autoscaling
- ✓ Deploy virtual machines and updates at scale
- Run Cassandra, Cloudera, Hadoop, MongoDB, and Mesos

- Quickly scale your big compute and big data applications
- Attach additional data disks as per your application requirement
- ✓ Support Linux or Windows images and extensions
- Deploy across availability zones to protect against datacenter failures

Reference: https://azure.microsoft.com/en-us/services/virtual-machine-scale-sets/

#### Domain

Describe Azure architecture and services (35–40%)

# Question 13 Skipped

Which of the following is **not** part of the **cloud service provider's responsibility** in the **shared responsibility model** for an **laaS** solution?

Physical security of data centers

#### **Explanation**

Physical security of data centers is typically the responsibility of the cloud service provider in the shared responsibility model for an laaS solution. They are responsible for securing the physical infrastructure where the data centers are located to ensure the safety and protection of the hardware and data stored within them.

Managing the network infrastructure

#### Explanation

Managing the network infrastructure, including network security, availability, and performance, is usually the responsibility of the cloud service provider in the shared responsibility model for

an laaS solution. They are responsible for maintaining and securing the network infrastructure that connects the customer's virtual machines and other resources to the cloud environment.

# Managing the physical hardware

#### **Explanation**

Managing the physical hardware, such as servers, storage devices, and networking equipment, is typically the responsibility of the cloud service provider in the shared responsibility model for an laaS solution. They are responsible for ensuring the proper functioning and maintenance of the physical infrastructure that supports the virtualized environment.

#### **Correct answer**

Virtual machine patching and maintenance

#### **Explanation**

Virtual machine patching and maintenance are usually the responsibility of the customer in the shared responsibility model for an laaS solution. Customers are responsible for managing and maintaining the virtual machines they deploy on the cloud infrastructure, including applying patches, updates, and ensuring the security of the virtual machines.

#### Overall explanation

In the **shared responsibility model**, for **laaS**, the provider is responsible for physical infrastructure, networking, and security, while the customer is responsible for managing virtual machines, the operating system, and any installed applications. **Virtual machine patching** is typically a customer responsibility.

#### Domain

Describe cloud concepts (25-30%)

# Question 14 Skipped

# Correct answer No Yes

Each Azure subscription can contain multiple account administrators.

#### **Overall explanation**

It is possible to assign multiple administrators to a particular subscription, however there is ONLY 1

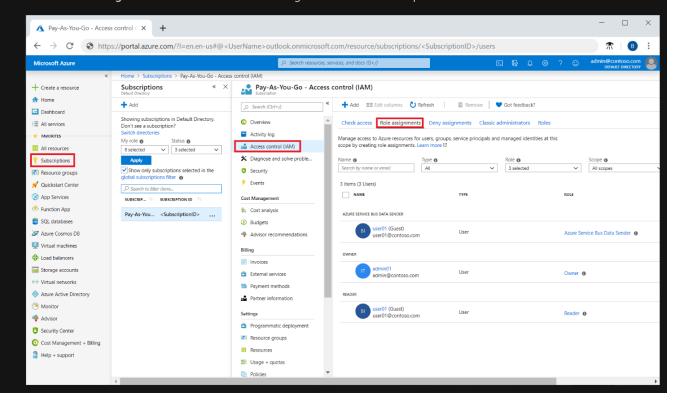
account administrator.

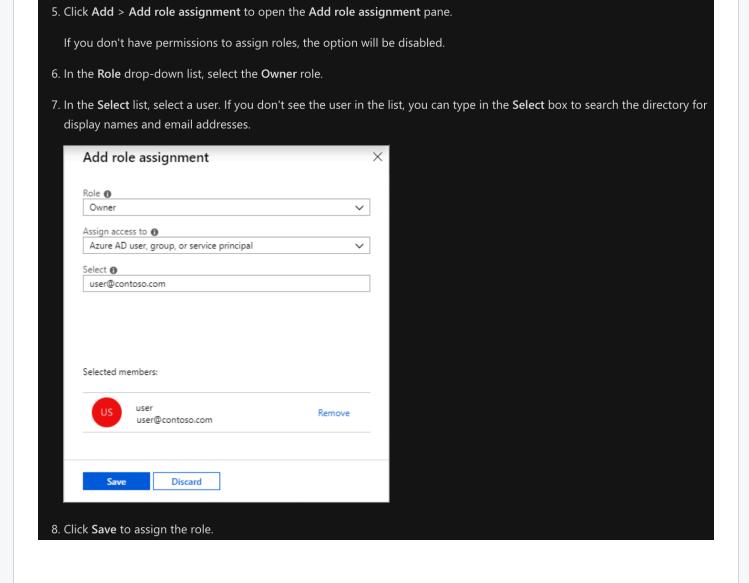
#### From the Official Azure Documentation:

To manage access to Azure resources, you must have the **appropriate administrator role.** Azure has an authorization system called <u>Azure role-based access control (Azure RBAC)</u> with several built-in roles you can choose from. You can assign these roles at different scopes, such as management group, subscription, or resource group. **By default, the person who creates a new Azure subscription can assign other users administrative access to a subscription (account Admin).** 

# To assign a user as an administrator

- 1. Sign in to the Azure portal as the subscription owner and open  $\text{Subscriptions}\, \vec{\mathbb{L}}$  .
- 2. Click the subscription where you want to grant access.
- 3. Click Access control (IAM).
- 4. Click the Role assignments tab to view all the role assignments for this subscription.





**Reference:** https://docs.microsoft.com/en-us/azure/cost-management-billing/manage/add-change-subscription-administrator

#### **Domain**

Describe Azure management and governance (30–35%)

Question 15 Skipped
Which of the following is a key difference between Microsoft Entra ID and Role-Based Access Control (RBAC)?

Entra ID is used for managing access to Azure resources, while RBAC is used for managing access to on-premises resources.

# Entra ID provides identity and access management services, while RBAC provides granular access control within Azure resources. Entra ID is only used for managing access to Microsoft applications, while RBAC is used for managing access to any Azure resource. Entra ID is a cloud-based directory service, while RBAC is a feature within the Azure portal.

#### Overall explanation

Correct answer

The correct option is: Entra ID provides identity and access management services, while Role-Based Access Control (RBAC) provides granular access control within Azure resources.

#### Other options:

- Entra ID is used for managing access to Azure resources, while RBAC is
  used for managing access to on-premises resources: This is incorrect
  because Entra ID can be used for managing access to on-premises resources
  as well as cloud resources.
- Entra ID is a cloud-based directory service, while RBAC is a feature within the Azure portal: This is incorrect because Entra ID is a cloud-based directory service, but RBAC is not a feature within the Azure portal. Rather, RBAC is a built-in feature of the Azure platform for managing access to Azure resources.
- Entra ID is only used for managing access to Microsoft applications, while RBAC is used for managing access to any Azure resource: This is incorrect because Entra ID can be used to manage access to both Microsoft and non-Microsoft applications, while RBAC is used only for managing access to Azure resources.

Overall, Entra ID and RBAC have different but complementary roles in managing access to Azure resources. Entra ID is primarily used for managing user identities and authentication,

while RBAC is used for managing granular access control within Azure resources by assigning permissions to specific roles rather than individual users.

Reference: https://azure.microsoft.com/en-us/products/active-directory/#faq

Domain

Describe Azure architecture and services (35–40%)

Question 16 Skipped

Your company's IT department wants to ensure that its virtual machines (VMs) are highly available and have automatic failover in case of a hardware failure. Which feature should you use to achieve this?

Virtual Machine Scale Sets

#### **Explanation**

Virtual Machine Scale Sets are used to automatically scale out VM instances based on demand or a defined schedule. While they can improve scalability and performance, they do not directly provide automatic failover in case of hardware failure.

Azure Virtual Machine Resiliency

#### **Explanation**

Azure Virtual Machine Resiliency is not a specific feature in Azure. It is important to use features like Availability Zones to ensure high availability and automatic failover for VMs in case of hardware failure.

Azure Site Recovery

#### **Explanation**

Azure Site Recovery is a disaster recovery service that replicates VMs to a secondary location for failover in case of a disaster. While it can help with disaster recovery scenarios, it is not

specifically designed for automatic failover in case of hardware failure within the same region.

**Correct answer** 

Availability Zones

#### **Explanation**

Availability Zones in Azure provide high availability by distributing VMs across multiple physical data centers within an Azure region. This ensures that if one data center fails, the VMs can automatically failover to another data center within the same region, minimizing downtime and ensuring business continuity.

#### Overall explanation

Availability Zones is the correct answer. It is an Azure service that provides high availability by replicating applications and data across multiple data-centers within a region. By using availability zones, your virtual machines are deployed in separate physical locations with independent power, cooling, and networking, ensuring that they remain available even if there is a failure in one of the zones. This feature provides automatic failover in case of a hardware failure, making it a suitable solution for ensuring highly available virtual machines.

#### Other Options:

- Virtual Machine Scale Sets: This is an Azure service that allows you to create
  and manage a group of identical virtual machines in Azure. This service is
  designed to help you scale your applications horizontally to meet increased
  demand, but it does not provide a solution for ensuring automatic failover in
  case of a hardware failure.
- Azure Site Recovery: This is an Azure service that allows you to replicate virtual
  machines from your on-premises environment to Azure or between Azure
  regions. While this service can help you achieve high availability and automatic
  failover, it is primarily designed for disaster recovery scenarios, and not for
  ensuring high availability in the event of a hardware failure.
- **Azure Virtual Machine Resiliency**: This is not a valid Azure service or feature. Therefore, it is not a suitable solution for ensuring highly available virtual

Reference: https://docs.microsoft.com/en-us/azure/availability-zones/az-overview
<b>Domain</b> Describe Azure architecture and services (35–40%)
Question 17 Skipped  AzCopy is a command-line utility designed to copy
O Database schemas
O Data between on-premises file servers
Correct answer  O Data between Azure Storage accounts
○ Virtual machines
Overall explanation  AzCopy is a command-line utility specifically designed to copy data between Azure Storage accounts or between an on-premises location and Azure Storage. It supports Blob Storage, Table Storage, and File Storage transfers.
Other options -
<ul> <li>Virtual machines - AzCopy is not designed to copy virtual machines; it focuses on data transfers for Azure Storage services.</li> </ul>

machines.

- **Data between on-premises file servers -** Although AzCopy can copy data between an on-premises location and Azure Storage, it is not intended for transferring data directly between on-premises file servers without involving Azure Storage.
- Database schema AzCopy is not designed for copying database schema; it focuses on data transfers for Azure Storage services, such as Blob Storage, Table Storage, and File Storage.

Reference: <a href="https://docs.microsoft.com/en-us/azure/storage/common/storage-use-azcopy-v10">https://docs.microsoft.com/en-us/azure/storage/common/storage-use-azcopy-v10</a>

#### Domain

Describe Azure architecture and services (35–40%)

Question 18 Skipped How does Entra ID B2B Collabo partners?	oration benefit organizations when collaborating with externa
It enables external partners	s to manage Azure subscriptions.
It integrates external partner	ers into the organization's on-premises network.
It grants full administrator a	access to external partners.
Correct answer  It provides controlled acces	ss to specified resources while maintaining security.

#### **Overall explanation**

Entra ID B2B Collaboration enables organizations to securely collaborate with external partners by granting them controlled access to specific resources. This allows external partners to work on shared projects without compromising security.

**Reference:** <a href="https://learn.microsoft.com/en-us/azure/active-directory/external-identities/external-identities-overview">https://learn.microsoft.com/en-us/azure/active-directory/external-identities-overview</a>

#### **Domain**

Describe Azure architecture and services (35–40%)

Question 19 Skipped	^
Yes or No:	
You can enforce Entra ID Multi-Factor Authentication for all users via the Microsoft Authenticator app, phone call, or SMS code.	
Correct answer  No	
○ Yes	

#### **Overall explanation**

#### From the Official Azure Documentation:

Entra ID Multi-Factor Authentication is a Microsoft service that provides multi-factor authentication capabilities. Entra ID Multi-Factor Authentication enables users to choose an additional form of authentication during sign-in, such as a phone call or mobile app notification.

The Entra ID free edition enables Entra ID Multi-Factor Authentication for administrators with the **global admin** level of access, via the Microsoft Authenticator app, phone call, or SMS code.

You can also enforce Entra ID Multi-Factor Authentication for all users **via the Microsoft Authenticator app only,** by enabling security *defaults* in your Azure AD tenant.

**Reference:** https://docs.microsoft.com/en-ca/learn/modules/secure-access-azure-identity-services/4-what-are-mfa-conditional-access

#### **Domain**

Describe Azure architecture and services (35–40%)

Question 20 Skipped     What are the basic building block of Azure?	^
○ Subscriptions	
Management groups	
Correct answer  Correct answer	
Resource groups	

# Overall explanation

**Resources** are the basic building blocks of Azure. Anything you create, provision, deploy, etc. is a resource. Virtual Machines (VMs), virtual networks, databases, cognitive services, etc. are all considered resources within Azure.

Other options -

- Resource groups are logical containers for resources deployed within an Azure subscription. They do not represent the individual components created in Azure.
- **Subscriptions** are a unit of management, billing, and scale in Azure. They are used to organize resource groups and facilitate billing but are not the basic building blocks themselves.
- Management groups are a higher-level organizational structure used to manage access, policies, and compliance for multiple subscriptions. They are not the basic building blocks of Azure.

Reference: <a href="https://learn.microsoft.com/en-us/training/modules/describe-core-architectural-components-of-azure/6-describe-azure-management-infrastructure">https://learn.microsoft.com/en-us/training/modules/describe-core-architectural-components-of-azure/6-describe-azure-management-infrastructure</a>

#### Domain

Describe Azure management and governance (30–35%)

Question 21 Skipped

As part of its modernization strategy, your company has decided to move all its operations to the Azure cloud. It is looking for an advanced modernization, and optimization service for Azure with a wide range of tools for assessment.

Which of the following would you recommend?

Azure Data Box

#### **Explanation**

Azure Data Box is not the best recommendation for advanced modernization and optimization of Azure resources. It is a physical device used for offline data transfer to Azure, which may not align with the company's goal of modernizing its operations with a wide range of assessment tools.

Azure Advisor

#### Explanation

Azure Advisor is a service that provides recommendations for optimizing Azure resources based on best practices and cost efficiency. While it is a valuable tool for optimization, it may not offer the advanced modernization and assessment capabilities required for the company's modernization strategy.

### Azure Cloud Adopter

#### **Explanation**

Azure Cloud Adopter is not a recognized service in Azure for advanced modernization and optimization. It does not provide the wide range of tools for assessment and modernization that Azure Migrate offers, making it a less suitable recommendation for the company's modernization strategy.

#### **Correct answer**

Azure Migrate

#### **Explanation**

Azure Migrate is the correct choice as it is a service designed specifically for advanced modernization and optimization of Azure resources. It provides a wide range of tools for assessment, discovery, and migration of on-premises resources to Azure, making it an ideal choice for companies looking to modernize their operations.

#### Overall explanation

#### From the Official Azure Documentation:

Azure Migrate provides a simplified migration, modernization, and optimization service for Azure. All pre-migration steps such as discovery, assessments, and right-sizing of on-premises resources are included for infrastructure, data, and applications. Azure Migrate's extensible framework allows for integration of third-party tools, thus expanding the scope of supported use-cases. It provides the following:

<ul> <li>Unified migration platform: A single portal to start, run, and track your migration to Azure.</li> </ul>
<ul> <li>Range of tools: A range of tools for assessment and migration. Azure Migrate tools include Azure Migrate: Discovery and assessment and Azure Migrate: Server Migration. Azure Migrate also integrates with other Azure services and tools, and with independent software vendor (ISV) offerings.</li> </ul>
Reference: https://docs.microsoft.com/en-us/azure/migrate/migrate-services-overview
<b>Domain</b> Describe Azure architecture and services (35–40%)
Question 22 Skipped  Which of the following statements regarding Azure subscriptions are correct?
Correct selection  Trial subscription can be converted to paid
Azure subscription cannot have a trust relationship with an Azure Active Directory (AD) instance
Correct selection  Subscription is dependent on a region
Correct selection  Billing is applied to each subscription separately

Multiple subscriptions cannot be created within an Azure account

#### Overall explanation

**Billing is applied to each subscription separately -** Yes! It is one of the many reasons why people use separate subscriptions.

**Trial subscription can be converted to paid** - Of course. When you sign up for an Azure free account, you get \$200 credit. In the first 30 days, any services you use beyond their free amounts will be deducted from that \$200 credit. When you've used up your \$200 credit or 30 days have passed (whichever happens first), you'll need to upgrade by moving to <a href="may-as-you-go-pricing">pay-as-you-go-pricing</a>. That way, you can keep getting free amounts of services and purchase services beyond their free amounts as needed. The cost of those services is charged to the payment method you provide.

**Subscription is dependent on a region -** Yes, when you create a subscription in Azure, you need to specify a certain region for that Subscription. Hence, this choice is valid as well.

All other options are invalid and don't stand true.

#### References:

 $\frac{https://techcommunity.microsoft.com/t5/azure/understanding-azure-account-subscription-and-directory/m-p/34800$ 

https://docs.microsoft.com/en-us/azure/active-directory/fundamentals/active-directory-how-subscriptions-associated-directory

https://azure.microsoft.com/en-us/free/free-account-faq/

#### **Domain**

Describe Azure management and governance (30–35%)

Question 23	Skipped	^
can help you	make it easier to identify groups that generate the biggest Azure costs, what discount adjust your spending accordingly.	nich

Correct answer

Explanation  Tags allow you to categorize and organize Azure resources, making it easier to track and manage costs associated with specific groups of resources. By assigning tags to resources, you can easily identify which groups are contributing the most to your Azure costs and make adjustments as needed.
○ Blueprints
Explanation  Blueprints in Azure are used to define a repeatable set of resources that adhere to organizational standards and requirements. While blueprints can help with resource deployment and compliance, they are not specifically designed to identify groups that generate the biggest Azure costs.
Mangement Groups
Explanation  Management Groups are used to organize subscriptions into containers to help manage access, policies, and compliance across multiple subscriptions. While Management Groups can help with overall governance and control, they are not specifically designed to identify groups that generate the biggest Azure costs.
Policies
Explanation  Policies in Azure are used to enforce rules and actions for resources to ensure compliance with organizational standards and security requirements. While policies can help control costs by enforcing spending limits or resource configurations, they are not primarily used to identify groups that generate the biggest Azure costs.
Overall explanation

#### From the Official Azure Documentation:

**Tags** help you manage costs associated with the different groups of Azure products and resources. You can apply tags to groups of Azure resources to organize billing data.

For example, if you run several VMs for different teams, you can use tags to categorize costs by department, such as Human Resources, Marketing, or Finance; or by environment, such as Test or Production.

Tags make it easier to identify groups that generate the biggest Azure costs, which can help you adjust your spending accordingly.

**Reference:** https://docs.microsoft.com/en-ca/learn/modules/plan-manage-azure-costs/6-manage-minimize-total-cost

#### Domain

Describe Azure management and governance (30–35%)

# Question 24 Skipped

You have an on-premises infrastructure and would like to extend its capabilities by making use of Azure services. Which type of cloud deployment is this an example of?

An Internal cloud

#### **Explanation**

An Internal Cloud, also known as a private cloud, is a cloud infrastructure that is operated solely for a single organization. While this choice may seem relevant to the scenario, it does not specifically address the concept of extending on-premises infrastructure with Azure services.

A private cloud

#### **Explanation**

A Private Cloud is a cloud infrastructure that is dedicated to a single organization and is typically hosted on-premises or in a data center. While this choice may seem relevant to the

scenario, it does not specifically address the concept of extending on-premises infrastructure with Azure services.

## A Public Cloud

#### **Explanation**

A Public Cloud refers to cloud services that are provided over the internet by a third-party provider, such as Microsoft Azure. This choice does not accurately describe the scenario of extending on-premises infrastructure with Azure services.

#### **Correct answer**

A hybrid cloud

## **Explanation**

A Hybrid Cloud deployment involves the combination of on-premises infrastructure with cloud services, such as those provided by Azure. This choice accurately describes the scenario of extending on-premises capabilities by leveraging Azure services, making it the correct choice for this question.

# Overall explanation

#### From the Official Azure Documentation:

A hybrid cloud is a combination of a private cloud and a public cloud.

A hybrid cloud is a computing environment that combines a public cloud and a private cloud by allowing data and applications to be shared between them.

# **Hybrid cloud**

- Provides the most flexibility.
- Organizations determine where to run their applications.
- Organizations control security, compliance, or legal requirements.

References: https://docs.microsoft.com/en-gb/learn/modules/principles-cloudcomputing/4-cloud-deployment-models **Domain** Describe cloud concepts (25–30%) **Question 25** Skipped A Senior Security Engineer in your company has enforced MFA for all users. How does MFA enhance security? Correct answer It requires a Password and a code through the Microsoft Authenticator App Explanation MFA enhances security by requiring users to provide two or more different factors to verify their identity, such as a password and a code generated by an authenticator app. This additional layer of security helps protect against unauthorized access, even if one factor (e.g., the password) is compromised. It uses two passwords Explanation MFA does not involve using two passwords for authentication. The purpose of MFA is to add an extra layer of security by requiring multiple factors to verify a user's identity, not multiple passwords. It requires a Social Insurance Number and a Password

#### **Explanation**

MFA does not require a Social Insurance Number as one of the factors for authentication. It typically involves using two or more different factors to verify a user's identity, such as

something they know (like a password) and something they have (like a code from an authenticator app).

It requires password complexity

#### **Explanation**

While MFA may enforce password complexity as one of the factors for authentication, it is not the sole requirement. MFA typically involves using multiple factors, such as something the user knows (like a password) and something they have (like a code from an authenticator app), to enhance security.

## Overall explanation

#### From the Official Azure Documentation:

**Multi-factor authentication** is a process where a user is prompted during the sign-in process for an additional form of identification, such as to enter a code on their cellphone or to provide a fingerprint scan.

If you only use a password to authenticate a user, it leaves an insecure vector for attack. If the password is weak or has been exposed elsewhere, is it really the user signing in with the username and password, or is it an attacker? When you require a second form of authentication, security is increased as this additional factor isn't something that's easy for an attacker to obtain or duplicate.



Entra ID Multi-Factor Authentication works by requiring **two or more of the following authentication methods:** 

- 1) Something **you know**, typically a password.
- 2) Something **you have**, such as a trusted device that is not easily duplicated, like a phone or hardware key.
- 3) Something **you are** biometrics like a fingerprint or face scan.

Users can register themselves for both self-service password reset and Entra ID Multi-Factor Authentication in one step to simplify the on-boarding experience. Administrators can define what forms of secondary authentication can be used. Entra ID Multi-Factor Authentication can also be required when users perform a self-service password reset to further secure that process.

**Reference:** <a href="https://docs.microsoft.com/en-us/azure/active-directory/authentication/concept-mfa-howitworks">https://docs.microsoft.com/en-us/azure/active-directory/authentication/concept-mfa-howitworks</a>

#### **Domain**

Describe Azure architecture and services (35–40%)

# Question 26 Skipped

Your team is planning to build a set of REST-based web APIs by using your choice of language and framework. The produced apps should be consumable from any HTTP or HTTPS based client.

Which of the following would be a great fit for this use case?

#### **Correct answer**

Azure App Service

#### **Explanation**

Azure App Service is a fully managed platform that allows you to build, deploy, and scale web apps and APIs. It supports various languages and frameworks, making it a great fit for building REST-based web APIs that can be consumed from any HTTP or HTTPS based client.

# Azure Kubernetes Service

#### **Explanation**

Azure Kubernetes Service is a container orchestration service that is more suitable for managing containerized applications at scale. While it can be used to deploy and manage APIs,

based web APIs.
Azure Functions
Explanation  Azure Functions are serverless compute services that allow you to run event-driven code without managing infrastructure. While they can be used to build APIs, Azure App Service would provide more flexibility and features for building and hosting REST-based web APIs.
Azure Container Instances
Explanation  Azure Container Instances are more suitable for running containerized applications in a serverless manner, rather than building and deploying web APIs. While it is possible to deploy APIs in containers, Azure App Service would be a better fit for this specific use case.
Azure Virtual Desktops
Explanation  Azure Virtual Desktops are virtualized desktop infrastructure solutions and are not designed for building and hosting web APIs. They are more focused on providing virtual desktop environments for users.
Overall explanation From the Official Azure Documentation:

Azure App Service would be a more straightforward and efficient choice for building REST-

focus on the website and API logic while Azure handles the infrastructure to run and scale your web applications.

# **API** apps

Much like hosting a website, you can build REST-based web APIs by using your choice of language and framework. You get full Swagger support and the ability to package and publish your API in Azure Marketplace. The produced apps can be consumed from any HTTP or HTTPS based client.

**Reference:** https://docs.microsoft.com/en-ca/learn/modules/azure-compute-fundamentals/azure-app-services

#### Domain

Describe Azure architecture and services (35–40%)

Question 27 Skipped

You plan to deploy an SQL database to Azure. One of the major requirements is resource isolation, i.e this database should not be accessible to other your other resources on Azure.

Which of the following can help with this?

#### **Correct answer**

O Deploy the SQL Database to a different Virtual Network and use NSGs to filter traffic.

#### **Explanation**

Deploying the SQL Database to a different Virtual Network provides resource isolation by placing the database in a separate network environment. This ensures that only specified resources within the same Virtual Network can access the database, effectively preventing access from other resources on Azure.

Setup custom rules in Azure Blueprints

#### **Explanation**

Setting up custom rules in Azure Blueprints enables you to define and enforce standards, compliance, and security controls across your Azure environment. However, Azure Blueprints focus more on governance and compliance aspects rather than resource isolation for a specific database.

Use an Azure ExpressRoute circuit

## **Explanation**

Using an Azure ExpressRoute circuit establishes a private connection between your onpremises infrastructure and Azure services. While ExpressRoute provides a secure and reliable connection, it does not inherently provide resource isolation for an SQL Database within the Azure environment.

Setup custom rules in Azure Policies

#### **Explanation**

Setting up custom rules in Azure Policies allows you to define specific access controls and restrictions for resources within your Azure environment. While Azure Policies can help enforce certain security measures, they do not directly provide resource isolation for the SQL Database from other resources.

# Overall explanation

Deploy the SQL Database to a different Virtual Network explains network segmentation. You can deploy the SQL database to a new Virtual Network and **filter** any traffic using a Network Security Group on top of it.

#### From the Official Azure Documentation:

**Azure Virtual Network (VNet)** is the fundamental building block for your private network in Azure. VNet enables many types of Azure resources, such as Azure Virtual Machines (VM), to securely communicate with each other, the internet, and on-premises networks. VNet is similar to a traditional network that you'd operate in your own data center, but brings with it additional benefits of Azure's infrastructure such as scale, availability, and isolation.

#### **Communicate between Azure resources**

You'll want to enable Azure resources to communicate securely with each other. You can do that in one of two ways:

- **Virtual networks** Virtual networks can connect not only VMs but other Azure resources, such as the App Service Environment for Power Apps, Azure Kubernetes Service, and Azure virtual machine scale sets.
- Service endpoints You can use service endpoints to connect to other Azure resource types, such as Azure SQL databases and storage accounts. This approach enables you to link multiple Azure resources to virtual networks to improve security and provide optimal routing between resources.

#### Filter network traffic

Azure virtual networks enable you to filter traffic between subnets by using the following approaches:

- Network security groups A network security group is an Azure resource that can contain multiple inbound and outbound security rules. You can define these rules to allow or block traffic, based on factors such as source and destination IP address, port, and protocol.
- Network virtual appliances A network virtual appliance is a specialized VM
  that can be compared to a hardened network appliance. A network virtual
  appliance carries out a particular network function, such as running a firewall or
  performing wide area network (WAN) optimization.

**Reference:** <a href="https://docs.microsoft.com/en-us/azure/virtual-network/virtual-networks-overview">https://docs.microsoft.com/en-us/azure/virtual-network/virtual-network/virtual-networks-overview</a>

#### Domain

Describe Azure architecture and services (35–40%)

# Question 28 Skipped

A startup has deployed a set of Virtual Machines which are critical for their day-to-day operations. They need to ensure their availability even if a single data center goes down. An intern suggests deploying the Virtual Machines to at least two regions.

# Would this suggestion meet the goal? **Correct answer** Yes Explanation Yes, deploying Virtual Machines to at least two regions would meet the goal of ensuring availability even if a single data center goes down. By distributing the Virtual Machines across multiple regions, the startup can achieve higher redundancy and fault tolerance, reducing the risk of downtime in case of a data center failure. O No Overall explanation From the Official Azure Documentation: By deploying the virtual machines to two or more regions, you are deploying the virtual machines to multiple datacenters. This will ensure that the services running on the virtual machines are available if a single data center fails. Azure operates in multiple datacenters around the world. These datacenters are grouped in to

Azure operates in multiple datacenters around the world. These datacenters are grouped in to geographic regions, giving you flexibility in choosing where to build your applications. You create Azure resources in defined geographic regions like 'West US', 'North Europe', or 'Southeast Asia'. You can review the list of regions and their locations.

Within each region, multiple datacenters exist to provide for redundancy and availability.

**Reference:** https://docs.microsoft.com/en-us/azure/virtual-machines/windows/regions

#### Domain

Describe Azure architecture and services (35–40%)

Question 29 Skipped
help to enforce organizational standards, to assess compliance at-scale and implementing governance for resource consistency, regulatory compliance, security an management.
Resource Locks
Explanation  Resource Locks in Azure help prevent accidental deletion or modification of Azure resources.  While they provide protection for critical resources, they do not specifically enforce organizational standards, assess compliance at scale, or implement governance for resource consistency, regulatory compliance, security, and management.
Resource Groups
Explanation  Resource Groups in Azure are logical containers that hold related resources for an application or a solution. While they help organize and manage resources, they do not specifically enforce organizational standards, assess compliance at scale, or implement governance for resource consistency, regulatory compliance, security, and management.
Correct answer  O Policies
Explanation  Policies in Azure help enforce organizational standards by defining rules and actions that are enforced or audited across resources to ensure compliance. They are used to assess compliance at scale and implement governance for resource consistency, regulatory compliance, security, and management.
○ Templates

#### **Explanation**

Templates in Azure, such as Azure Resource Manager templates, are used for deploying and managing Azure resources in a declarative manner. While templates help automate resource deployment, they do not directly enforce organizational standards, assess compliance at scale, or implement governance for resource consistency, regulatory compliance, security, and management.

# Overall explanation

#### From the Official Azure Documentation:

Azure Policy helps to enforce organizational standards and to assess compliance at-scale. Through its compliance dashboard, it provides an aggregated view to evaluate the overall state of the environment, with the ability to drill down to the per-resource, per-policy granularity. It also helps to bring your resources to compliance through bulk remediation for existing resources and automatic remediation for new resources.

Common use cases for Azure Policy include implementing governance for resource consistency, regulatory compliance, security, cost, and management. Policy definitions for these common use cases are already available in your Azure environment as built-ins to help you get started.

Reference: https://docs.microsoft.com/en-us/azure/governance/policy/overview

#### Domain

Describe Azure management and governance (30–35%)

# **Question 30 Skipped**

A defense contractor stores classified data in a cloud solution that ensures complete isolation from other organizations' workloads and requires strict control over its infrastructure. Meanwhile, a retailer needs to scale its existing on-premises infrastructure by offloading additional computing tasks to the cloud during peak sales seasons. Which cloud models would best suit these organizations?

O Private Cloud, Hybrid Cloud
Explanation  Private Cloud, similar to Public Cloud, offers dedicated infrastructure for a single organization, ensuring isolation and control. However, Hybrid Cloud combines public and private cloud resources, which may not be the best fit for the organizations' specific needs. Therefore, this option may not be the most suitable for the defense contractor and retailer.
Correct answer  O Private Cloud, Public Cloud
Explanation  Private Cloud offers dedicated infrastructure for a single organization, ensuring complete isolation and strict control over the infrastructure. This is ideal for storing classified data by a defense contractor. Public Cloud provides scalable resources over the internet, making it suitable for the retailer to offload additional computing tasks during peak sales seasons. This combination of Private Cloud and Public Cloud best suits the needs of both organizations.
○ Hybrid Cloud, Private Cloud
O Public Cloud, Hybrid Cloud
Explanation  Public Cloud is a shared infrastructure where services are provided over the internet to multiple organizations. It may not provide the level of isolation and control required for storing classified data by a defense contractor. Hybrid Cloud combines public and private cloud resources, which may not meet the strict control requirements for isolated infrastructure. Therefore, this option does not best suit the organizations in question.
Overall explanation

- Defense Contractor (Private Cloud): A Private Cloud provides isolated infrastructure, ensuring complete control and security, making it ideal for highly sensitive environments like the defense industry. The contractor can fully manage resources and ensure compliance with security standards.
- Retailer (Public Cloud): A Public Cloud is ideal for the retailer, as it allows for scaling resources during peak seasons. The retailer can "burst" workloads into Azure, using its elastic scaling capabilities, without managing the underlying infrastructure. The cloud provider handles the physical infrastructure while the retailer scales computing resources as needed.

#### Domain

Describe cloud concepts (25–30%)

# Question 31 Skipped

A company is deciding between using Azure laaS and PaaS for hosting a web application. Which of the following statements best describes the difference between laaS and PaaS?

laaS is only for databases, while PaaS is for web hosting.

#### **Explanation**

This statement is incorrect. Both laaS and PaaS in Azure can be used for various purposes, including hosting web applications, databases, and other services. laaS is not limited to databases, and PaaS is not limited to web hosting.

#### Correct answer

laaS gives you control over virtual machines and operating systems, while PaaS abstracts those details and focuses on application development.

#### **Explanation**

This statement is correct. IaaS in Azure gives you control over virtual machines and operating systems, allowing you to manage and configure them according to your needs. On the other hand, PaaS abstracts those details and focuses on application development, enabling you to deploy and manage applications without dealing with the underlying infrastructure.

Explanation  This statement is incorrect. The cost of laaS and PaaS in Azure can vary depending on factors such as resource usage, service level agreements, and additional features. It is not accurate to generalize that laaS is always more expensive than PaaS due to software licenses.
laaS provides a fully managed platform, while PaaS requires you to manage virtual machines.
Explanation  This statement is incorrect. In Azure, laaS (Infrastructure as a Service) provides virtual machines, storage, and networking resources that you can manage and control, while PaaS (Platform as a Service) abstracts the underlying infrastructure and focuses on application development, allowing you to deploy and manage applications without worrying about the underlying infrastructure.
Domain Describe cloud concepts (25–30%)
Question 32 Skipped  You have deployed Azure File Sync for your organization. One of the interns accidentally deleted some important files on the local file server. How can you recover the deleted files?
Correct answer  Correct answer  Recover from the Azure File share using Azure Backup
Recover from the local file server's backup

0	Use Azure Site Recovery to recover the files
0	Restore the files from Azure Blob Storage

# Overall explanation

The correct answer is **Recover from the Azure File share using Azure Backup.** When you deploy Azure File Sync, the data is synchronized with Azure Files, and you can create a backup of the file share using Azure Backup. In case of accidental deletion, you can restore the deleted files from the Azure File share backup.

# Other options -

- **Recovering from the local file server's backup** may be a valid option, but it is not the best solution in the context of Azure File Sync. Azure File Sync keeps a centralized copy of the data in Azure Files, which can be backed up and restored using Azure Backup.
- Azure Site Recovery is a disaster recovery solution and is not intended for file recovery. It is designed to protect virtual machines and physical servers by replicating them to a secondary location, but it is not suitable for restoring individual files
- Restoring the files from Azure Blob Storage is not relevant because Azure File Sync synchronizes data with Azure Files, not Azure Blob Storage.

**Reference:** https://docs.microsoft.com/en-us/azure/backup/backup-afs

#### Domain

Describe Azure architecture and services (35–40%)

of tags. You want to ensure that this mandate is enforced automatically for all new resources deployed in your Azure environment. Which Azure service should you use to accomplish this
Azure Security Center
Explanation  Azure Security Center focuses on security posture management, threat protection, and security recommendations. While it can help with security-related policies, it is not specifically designed for enforcing tagging requirements on Azure resources.
Azure Advisor
Explanation  Azure Advisor provides recommendations for optimizing Azure resources based on best practices, security, performance, and cost. It does not have the capability to enforce tagging requirements on all new resources deployed in your Azure environment.
Azure Resource Manager
Explanation  Azure Resource Manager is the deployment and management service for Azure resources.  While it is essential for deploying and managing Azure resources, it does not have the built-in capability to enforce tagging requirements automatically. Azure Policy is the appropriate service for this specific requirement.
Correct answer
Explanation  Azure Policy is the correct choice for enforcing and applying specific rules and configurations across Azure resources. By using Azure Policy, you can define and enforce tagging

Your company has a policy that requires all Azure resources to be deployed with a specific set

requirements for all new resources deployed in your Azure environment, ensuring compliance with your company's policy.

# Overall explanation

The correct answer is **Azure Policy.** 

Azure Policy is the Azure service used to enforce policies for resource consistency and compliance. It allows administrators to create and enforce policies that ensure resources deployed in Azure adhere to specific rules, such as the requirement to have a specific set of tags. Azure Policy can evaluate resources against these policies and, if necessary, take actions to remediate non-compliant resources. In this scenario, Azure Policy can be used to automatically enforce the policy that requires all resources to be deployed with a specific set of tags.

## Other options -

**Azure Security Center:** This is a cloud security management service that provides visibility and control over the security of your Azure resources. While it can help enforce some security policies, it is not designed for enforcing resource tags.

**Azure Advisor:** This is a personalized cloud consultant that provides recommendations for optimizing Azure resources for high availability, security, performance, and cost. While it can provide recommendations for tagging resources, it does not enforce policies.

**Azure Resource Manager:** This is the deployment and management service for Azure that provides a way to organize and manage resources in a consistent and predictable manner. While it can be used to deploy resources with tags, it does not enforce policies.

**Reference:** https://docs.microsoft.com/en-us/azure/governance/policy/

#### Domain

Describe Azure management and governance (30–35%)

Which of the following would be an example of a <b>public cloud</b> ?
A government agency that manages sensitive data entirely in a controlled onpremises environment.
Explanation  A government agency that manages sensitive data entirely in a controlled on-premises environment is an example of an on-premises or private cloud setup. In this scenario, the organization maintains full control over the infrastructure and data.
Correct answer  A company using Microsoft Azure to run applications without owning any physical infrastructure.
Explanation  A company using Microsoft Azure to run applications without owning any physical infrastructure is an example of a public cloud. Public clouds, like Microsoft Azure, provide services and resources to multiple organizations over the internet, allowing them to access and use computing resources without the need to invest in and maintain physical infrastructure.
A healthcare provider that hosts its servers in a data center owned by a third-party vendor.
Explanation  A healthcare provider that hosts its servers in a data center owned by a third-party vendor is an example of a hybrid cloud, where the organization uses a combination of on-premises, private cloud, and public cloud services. In this scenario, the healthcare provider is utilizing a third-party vendor's data center for hosting servers, which may involve a mix of private and public cloud services.
A bank that runs all its services in its own private data centers.
Explanation  A bank that runs all its services in its own private data centers is an example of a private cloud, not a public cloud. Private clouds are dedicated to a single organization and are not shared

with other organizations or the public.
Overall explanation  A public cloud is a cloud service where the infrastructure is owned and operated by a third-party provider and made available to the general public. Microsoft Azure is a classic example of a public cloud offering infrastructure, platform, and software services to organizations without them needing to manage physical hardware.
<b>Domain</b> Describe cloud concepts (25–30%)
Question 35 Skipped A firm connects two Azure virtual networks—one in East US, one in West US—to share resources securely without routing through the public internet. Which aspects of virtual network peering are in use? (Select all that apply.)
☐ Un-Encrypted tunneling
Explanation  Un-Encrypted tunneling is not directly related to virtual network peering in this scenario. While encryption may be used to secure the communication between the virtual networks, it is not a specific aspect of virtual network peering itself (especially unencrypted).
Correct selection  Private traffic routing
Explanation  Private traffic routing is a key aspect of virtual network peering, allowing the secure sharing of resources between the connected Azure virtual networks without the need to route through the public internet. This ensures that the communication remains private and isolated within the connected networks.

	n name resolution
Explanation	
DNS resolut	ne resolution is not a direct aspect of virtual network peering in this context. While tion may play a role in the communication between the connected virtual networks, efining feature of virtual network peering.
Correct selection	region connectivity
Explanation	
regions, suc	n connectivity is in use when connecting two Azure virtual networks in different the as East US and West US, to share resources securely without routing through the net. Virtual network peering enables this communication between the two

# Overall explanation

The correct answers are:

Cross-region connectivity
Private traffic routing

Here's why:

- Cross-region connectivity: Azure Virtual Network peering allows networks in different regions (East US and West US, in this case) to be connected securely, which is considered cross-region connectivity.
- **Private traffic routing**: Virtual network peering allows traffic to route privately between the connected VNets, meaning it doesn't traverse the public internet.

The other options are not directly related to the features of virtual network peering:

• **Encrypted tunneling**: While traffic between peered VNets is secure, it's not necessarily through encrypted tunneling like a VPN. Peering uses private IPs,

and the traffic is secured by Azure's underlying infrastructure. • **Domain name resolution**: While you can configure DNS settings for peered networks, this is not an inherent feature of the peering itself and requires additional configuration if needed. **Domain** Describe Azure architecture and services (35–40%) **Question 36 Skipped** In Azure, subscriptions serve as a unit of: Management Correct answer All of the these ○ Scale **Billing Overall explanation** The correct answer is All of the Above. In Azure, subscriptions serve as a unit of management, billing, and scale. They help you organize your resource groups, manage access to resources, and facilitate billing for the resources used in Azure.

Reference: https://learn.microsoft.com/en-us/training/modules/describe-core-architectural-components-of-azure/6-describe-azure-management-infrastructure

Domain

# Question 37 Skipped

Which of the following is NOT a compute service available in Azure?

Describe Azure management and governance (30–35%)

**Correct answer** 

Azure CosmosDB

#### **Explanation**

Azure CosmosDB is a globally distributed, multi-model database service provided by Azure. It is not a compute service, but rather a database service that offers high availability, low latency, and scalability for applications.

#### Azure Kubernetes

# **Explanation**

Azure Kubernetes Service (AKS) is a managed Kubernetes service provided by Azure. It allows users to deploy, manage, and scale containerized applications using Kubernetes. AKS is a compute service that provides container orchestration capabilities.

# Azure App Service

#### **Explanation**

Azure App Service is a platform-as-a-service (PaaS) offering provided by Azure. It allows users to build, deploy, and scale web applications and APIs. Azure App Service is a compute service that provides a fully managed platform for hosting applications.

<ul> <li>Azure Functions</li> </ul>	
-------------------------------------	--

# **Explanation**

Azure Functions is a serverless compute service provided by Azure. It allows users to run event-driven code without managing infrastructure. Azure Functions is a compute service that enables developers to execute code in response to various triggers.

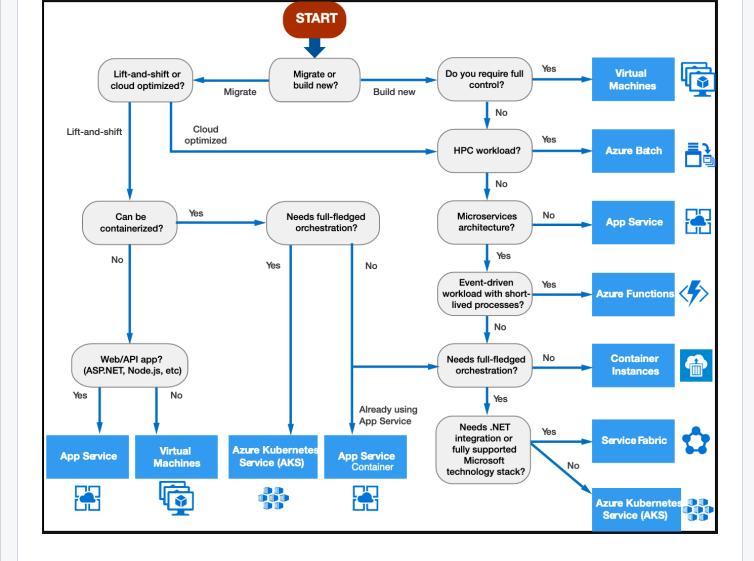
# **Overall explanation**

CosmosDB is a **Database** and not a compute option in Azure.

## From the Official Azure Documentation:

Azure offers a number of ways to host your application code. The term *compute* refers to the hosting model for the computing resources that your application runs on. The following flowchart will help you to choose a compute service for your application.

If your application consists of multiple workloads, evaluate each workload separately. A complete solution may incorporate two or more compute services.



**Reference:** <a href="https://docs.microsoft.com/en-us/azure/architecture/guide/technology-choices/compute-decision-tree">https://docs.microsoft.com/en-us/azure/architecture/guide/technology-choices/compute-decision-tree</a>

#### Domain

Describe Azure architecture and services (35-40%)

# Question 38 Skipped

A company creates an isolated network in Azure to host its application resources, ensuring they communicate securely without public internet exposure. Which Azure feature enables this isolation?

Azure VPN Gateway

**Explanation** 

Azure VPN Gateway enables you to establish secure connections between your on-premises network and your Azure VNet. While VPN Gateway is crucial for secure communication between on-premises and Azure resources, it does not directly enable the isolation of application resources within an Azure VNet.

ExpressRoute

## **Explanation**

ExpressRoute provides a private, dedicated connection between your on-premises network and Azure data centers. While ExpressRoute is essential for establishing a private connection to Azure, it does not specifically enable the isolation of application resources within an Azure VNet.

**Correct answer** 

Azure Virtual Network

#### **Explanation**

Azure Virtual Network (VNet) allows you to create isolated networks in Azure where you can place your resources. By using VNets, you can ensure that your application resources communicate securely within the network without being exposed to the public internet, thus enabling isolation and enhanced security.

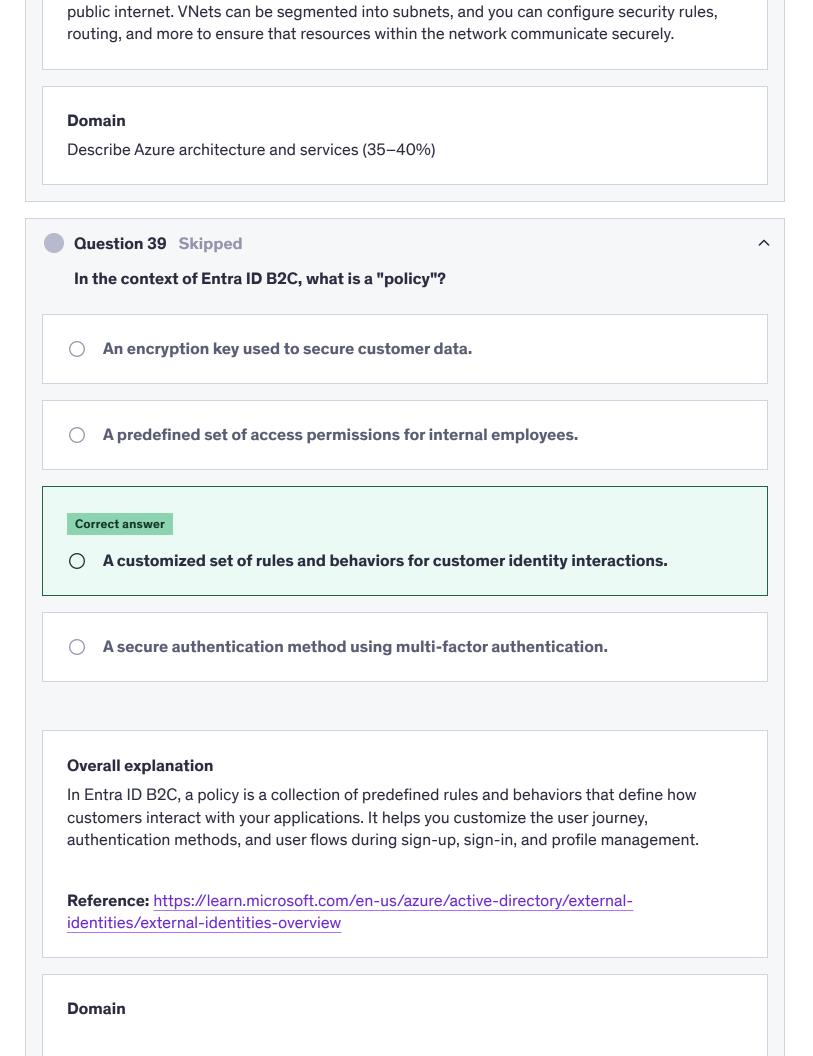
○ Azure DNS

#### **Explanation**

Azure DNS is a domain name system (DNS) service that translates domain names to IP addresses. While Azure DNS is important for resolving domain names to IP addresses, it does not provide the isolation needed to host application resources securely within an isolated network in Azure.

# Overall explanation

**Azure Virtual Network (VNet)** allows you to create an isolated, private network within Azure. It enables secure communication between resources in Azure without exposing them to the



**Question 40 Skipped** Yes or No: Azure Pay-As-You-Go pricing is an example of Capex. **Correct answer** O No **Explanation** No, Azure Pay-As-You-Go pricing is not an example of Capex. Instead, it is an example of Opex (Operating Expenses) as it involves paying for resources and services on a consumption basis, similar to utility bills. This model allows for flexibility and scalability based on actual usage. Yes **Overall explanation** From the Official Azure Documentation: One of the major changes that you will face when you move from on-premises cloud to the public cloud is the switch from capital expenditure (buying hardware) to operational expenditure (paying for service as you use it). Reference: https://docs.microsoft.com/en-us/azure/cloud-adoptionframework/strategy/business-outcomes/fiscal-outcomes **Domain** Describe cloud concepts (25–30%)

Describe Azure architecture and services (35–40%)

Ouestion 41 Skipped  How can you deploy an ARM template to Azure?
By running the ARM template on a local machine be it Windows or Mac.
By manually configuring each resource through the Azure portal.
By submitting the ARM template to a third-party service such as Dremio.
O By using Azure PowerShell, Azure CLI, or the Azure portal
Overall explanation
ARM templates can be deployed using various tools, including Azure PowerShell, Azure CLI, and the Azure portal. These tools interpret the template and orchestrate the resource provisioning process.
Reference: https://learn.microsoft.com/en-us/azure/azure-resource-manager/templates/overview
Domain
Describe Azure management and governance (30–35%)

Question 42 Skipped

When creating a private endpoint, which of the following components needs to be configured to enable private connectivity?

<ul> <li>Public IP address</li> <li>Network Security Group (NSG)</li> <li>Correct answer</li> <li>Private DNS zone</li> </ul>
Correct answer
Overall explanation  To enable private connectivity via a private endpoint, you need to configure a Private DNS zone. This Private DNS zone allows you to resolve the hostname of the private endpoint to its private IP address within your virtual network.
Reference: https://learn.microsoft.com/en-us/azure/storage/files/storage-files-networking-endpoints
Domain
Describe Azure architecture and services (35–40%)
Question 43 Skipped ^
True or False:
The Cool storage tier stores data offline and offers the lowest storage costs, but also the highest costs to rehydrate and access data.

**Correct answer** 

Explanation
False. The Cool storage tier in Azure does store data offline and offers lower storage costs, but it does not necessarily have the highest costs for rehydrating and accessing data. The costs for accessing data from the Cool tier are lower than the costs associated with the Archive tier, which is designed for long-term retention and infrequent access.
○ True

# **Overall explanation**

**False** 

#### From the Official Azure Documentation:

Azure Storage offers different access tiers for your blob storage, helping you store object data in the most cost-effective manner. The available access tiers include:

- Hot access tier: Optimized for storing data that is accessed frequently (for example, images for your website).
- **Cool access tier**: Optimized for data that is infrequently accessed and stored for at least 30 days (for example, invoices for your customers).
- **Archive access tier**: Appropriate for data that is rarely accessed and stored for at least 180 days, with flexible latency requirements (for example, long-term backups).

The following considerations apply to the different access tiers:

- Only the hot and cool access tiers can be set at the account level. The archive
  access tier isn't available at the account level.
- Hot, cool, and archive tiers can be set at the blob level, during upload or after upload.
- Data in the cool access tier can tolerate slightly lower availability, but still
  requires high durability, retrieval latency, and throughput characteristics similar
  to hot data. For cool data, a slightly lower availability service-level agreement
  (SLA) and higher access costs compared to hot data are acceptable trade-offs
  for lower storage costs.
- Archive storage stores data offline and offers the lowest storage costs, but also the highest costs to rehydrate and access data.

**Reference:** https://docs.microsoft.com/en-ca/learn/modules/azure-storagefundamentals/azure-storage-tiers Domain Describe Azure architecture and services (35–40%) **Question 44 Skipped** What is the primary advantage of using a **serverless computing** model in cloud computing? **Correct answer** You pay for the resources used during execution, eliminating the need to manage Explanation The primary advantage of serverless computing is that you only pay for the resources used during the execution of your application. This eliminates the need to manage servers, scale resources, or pay for idle time, resulting in cost savings and efficient resource utilization. You can use preconfigured virtual machines and applications without worrying about patching. **Explanation** Preconfigured virtual machines and applications are more related to Platform as a Service (PaaS) offerings rather than serverless computing. Serverless computing abstracts the underlying infrastructure, allowing developers to focus on writing code without worrying about server management or patching. You are charged only for the number of physical servers you manually provision. **Explanation** Using a serverless computing model in cloud computing means you do not need to provision or manage physical servers. Instead, the cloud provider dynamically manages the allocation of

overhead of server management.
You manage the virtual machines directly but do not need to worry about storage management.
Explanation  While serverless computing abstracts the server management aspect, it does not involve managing virtual machines directly. In a serverless model, developers focus on writing code in the form of functions or services, and the cloud provider takes care of the underlying infrastructure, including storage management.
Overall explanation In serverless computing, the cloud provider manages the infrastructure, and the customer only pays for the execution time and resources consumed during the function's runtime. There's no need to manage or provision servers, which leads to reduced operational overhead
<b>Domain</b> Describe cloud concepts (25–30%)
Question 45 Skipped What is the primary role of Azure Arc-enabled data services?
Correct answer  To extend Azure data services to on-premises and multi-cloud environments.
To manage and monitor data services exclusively within Azure regions.

machine resources, allowing you to focus on developing and running applications without the

To provide cloud-based virtual machines for data processing.
To optimize network connectivity between Azure regions.
Overall explanation
Azure Arc-enabled data services extend Azure data services to on-premises and multi-cloud environments, enabling consistent data management and integration across different locations.
Reference: https://learn.microsoft.com/en-us/azure/azure-arc/overview
Domain
Describe Azure architecture and services (35–40%)
Question 46 Skipped ^
Yes or No:
A unique characteristic of Azure Files from files on a corporate file share is that you cannot access the files from anywhere in the world, it has to be from a specific location.
○ Yes
Correct answer
Correct unished
○ No
○ No

## From the Official Azure Documentation:

Azure Files offers fully managed file shares in the cloud that are accessible via the industry standard Server Message Block and Network File System (preview) protocols. Azure file shares can be mounted concurrently by cloud or on-premises deployments of Windows, Linux, and macOS.

One thing that distinguishes Azure Files from files on a corporate file share is that you can access the files from anywhere in the world, by using a URL that points to the file. You can also use Shared Access Signature (SAS) tokens to allow access to a private asset for a specific amount of time.

Here's an example of a service SAS URI, showing the resource URI and the SAS token:



**Reference:** https://docs.microsoft.com/en-ca/learn/modules/azure-storage-fundamentals/azure-file-storage

#### **Domain**

Describe Azure architecture and services (35–40%)

Question 47 Skipped	^
Yes or No:	
A Social Insurance Number and a Fingerprint scan are valid MFA options for Azure.	
Correct answer	
O No	
○ Yes	

# Overall explanation

#### From the Official Azure Documentation:

# The following forms of verification can be used with Azure Multi-Factor Authentication:

Multi-factor authentication provides additional security for your identities by requiring two or more elements to fully authenticate.

These elements fall into three categories:

## Something the user knows

This might be an email address and password.

## Something the user has

This might be a code that's sent to the user's mobile phone.

## • Something the user is

This is typically some sort of biometric property, such as a fingerprint or face scan that's used on many mobile devices.

**Reference:** <a href="https://docs.microsoft.com/en-us/azure/active-directory/authentication/concept-mfa-howitworks">https://docs.microsoft.com/en-us/azure/active-directory/authentication/concept-mfa-howitworks</a>

#### Domain

Describe Azure architecture and services (35–40%)

# Question 48 Skipped

Which of the following scenarios best demonstrates the **scalability** benefit of cloud computing?

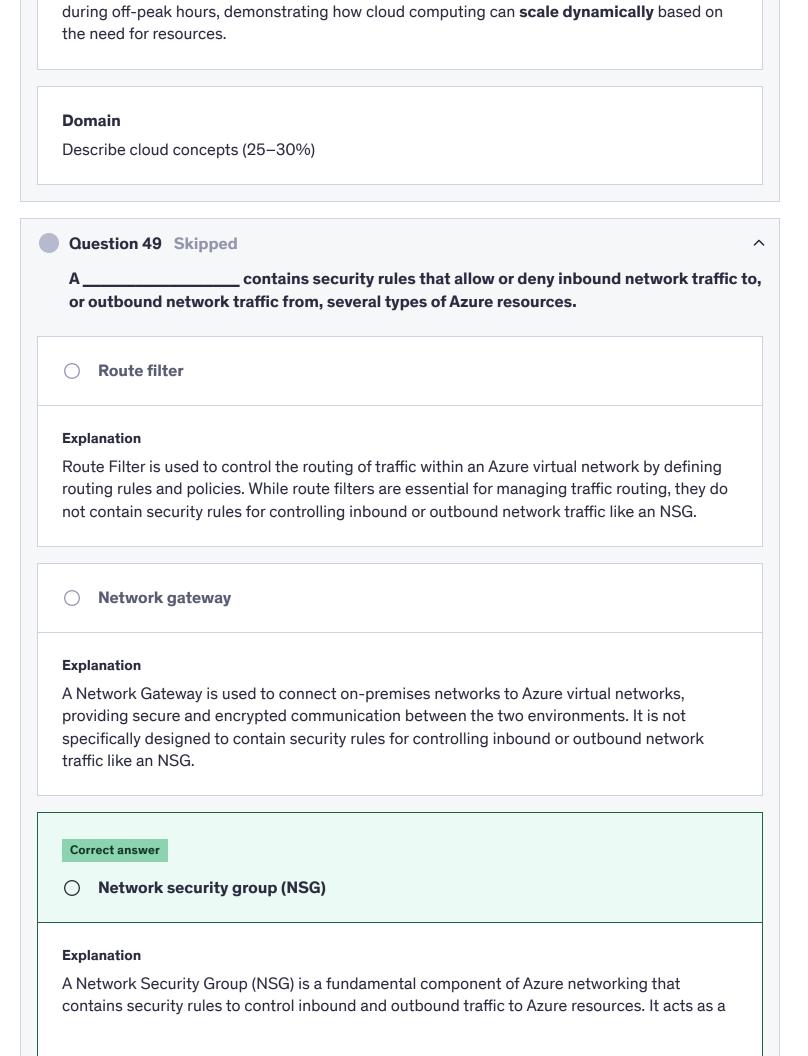
A government agency uses a dedicated cloud region with exclusive access to resources and no external access to ensure sensitive data security.

#### **Explanation**

The scenario of a government agency using a dedicated cloud region with exclusive access to resources and no external access for sensitive data security does not illustrate the elasticity

benefit of cloud computing. This scenario emphasizes security and isolation rather than the ability to scale resources based on demand.
A company stores backup data in Azure Blob Storage for disaster recovery.
Explanation  Storing backup data in Azure Blob Storage for disaster recovery does not specifically demonstrate the elasticity benefit of cloud computing. While cloud storage offers scalability and flexibility, the scenario does not involve dynamically adjusting resources based on demand.
Correct answer  A retail website uses a virtual machine that automatically increases resources during high traffic and decreases during off-peak hours.
Explanation  The scenario of a retail website using a virtual machine that automatically scales resources up during high traffic and down during off-peak hours demonstrates the elasticity benefit of cloud computing. This automatic scaling allows the website to efficiently handle varying levels of traffic without manual intervention.
A business deploys a software-as-a-service (SaaS) solution for its email system, removing the need to manage email infrastructure.
Explanation  Deploying a software-as-a-service (SaaS) solution for an email system removes the need to manage email infrastructure, but it does not directly showcase the elasticity benefit of cloud computing. SaaS solutions focus more on convenience and accessibility rather than dynamic resource scaling.
Overall explanation

**Scalability** refers to the ability to increase or decrease resources based on demand. In this scenario, the retail website automatically adjusts resources for high traffic and scales down



virtual firewall for controlling network traffic based on rules that allow or deny specific traffic based on source, destination, port, and protocol.

## Domain Name Service

## **Explanation**

Domain Name Service (DNS) is a service that translates domain names to IP addresses, enabling users to access websites using human-readable names. While DNS is essential for resolving domain names, it is not directly related to controlling network traffic through security rules like an NSG.

## Overall explanation

## From the Official Azure Documentation:

You can use an **Azure network security group** to filter network traffic to and from Azure resources in an Azure virtual network. A network security group contains <u>security rules</u> that allow or deny inbound network traffic to, or outbound network traffic from, several types of Azure resources. For each rule, you can specify source and destination, port, and protocol.

Network security group security rules are evaluated by priority using the 5-tuple information (source, source port, destination, destination port, and protocol) to allow or deny the traffic. A flow record is created for existing connections. Communication is allowed or denied based on the connection state of the flow record. The flow record allows a network security group to be stateful. If you specify an outbound security rule to any address over port 80, for example, it's not necessary to specify an inbound security rule for the response to the outbound traffic. You only need to specify an inbound security rule if communication is initiated externally. The opposite is also true. If inbound traffic is allowed over a port, it's not necessary to specify an outbound security rule to respond to traffic over the port.

**Reference:** https://docs.microsoft.com/en-us/azure/virtual-network/security-overview

#### **Domain**

Describe Azure architecture and services (35–40%)

Question 50	Skipped ^
True or False:	
An unlimited	number of resources can be added to a Subscription.
Correct answer      False	
○ True	

## **Overall explanation**

## From the Official Azure Documentation:

At the beginning of any cloud governance implementation, you identify a cloud organization structure that meets your business needs. This step often involves forming a *cloud center of excellence team* (also called a *cloud enablement team* or a *cloud custodian team*). This team is empowered to implement governance practices from a centralized location for the entire organization.

Teams often start their Azure governance strategy at the subscription level.

**Subscriptions** also have some resource limitations. For example, the maximum number of network Azure ExpressRoute circuits per subscription is 10. Those limits should be considered during your design phase. If you'll need to exceed those limits, you might need to add more subscriptions. If you hit a hard limit maximum, there's no flexibility to increase it.

Management groups are also available to assist with managing subscriptions. A management group manages access, policies, and compliance across multiple Azure subscriptions. You'll learn more about management groups later in this module.

**Reference:** <a href="https://docs.microsoft.com/en-ca/learn/modules/build-cloud-governance-strategy-azure/10-create-subscription-governance-strategy">https://docs.microsoft.com/en-ca/learn/modules/build-cloud-governance-strategy</a>

#### Domain

Cor	rect answer
) —	YAML
)	HTML
$\supset$	SQL
)	JavaScript
)ve	erall explanation
	<b>AL (Yet Another Markup Language)</b> is a common choice for writing code to define and page infrastructure in IaC. It provides a human-readable format for specifying
	figurations and settings for various resources.
	erence: https://learn.microsoft.com/en-us/dotnet/architecture/cloud-
ef	ve/infrastructure-as-code
	ve/ iiiiiasii ucture-as-code

Describe Azure management and governance (30–35%)

How does Microsoft Purview enhance data governance across multi-cloud environments?
By enabling cross-platform application deployment.
By providing a cloud-native development environment.
Correct answer  By offering a unified solution to manage and govern data across various cloud and on-premises sources.
By offering virtual machine management capabilities.
Overall explanation  Microsoft Purview provides a unified solution for managing and governing data across various sources, including multi-cloud and on-premises environments. It helps organizations maintain consistent data governance practices and policies regardless of where the data resides.
Reference: https://azure.microsoft.com/en-ca/products/purview
Domain  Describe Azure management and governance (30–35%)
Question 53 Skipped Which of the following is an accurate definition of an Azure Policy Initiative?
A set of policy definitions that are applied individually for easy management and assignment.

## Explanation

An Azure Policy Initiative is not a set of policy definitions applied individually, but rather a way to package and deploy multiple policy definitions as a single entity for easier management and assignment.

○ A type of virtual machine used for hosting policies in the Azure cloud.

## **Explanation**

Azure Policy Initiative is not a type of virtual machine used for hosting policies in the Azure cloud. It is a higher-level concept related to policy management and enforcement within Azure.

#### **Correct answer**

○ A way to package and deploy a collection of policy definitions as a single entity.

## **Explanation**

This choice accurately defines an Azure Policy Initiative as a method to bundle and deploy a collection of policy definitions as a single entity. This allows for easier management and assignment of policies within Azure.

An Azure service that provides real-time monitoring of policy enforcement.

#### **Explanation**

Azure Policy Initiative is not a real-time monitoring service for policy enforcement. It is a mechanism for packaging and deploying policy definitions.

## Overall explanation

The correct answer is: A way to package and deploy a collection of policy definitions as a single entity. An **initiative definition** is a group of policy definitions that are designed to achieve a specific objective. The purpose of initiative definitions is to streamline the management and assignment of policy definitions by grouping them together as a **single** entity. An example of an initiative could be "Enable Monitoring in Microsoft Defender for Cloud,"

which aims to monitor all the available security recommendations in a Microsoft Defender for Cloud instance.
Other options -
<ul> <li>A set of policy definitions that are applied individually for easy management and assignment: This option describes the individual policy definitions, which are the building blocks of an Azure Policy initiative. However, it does not accurately describe an Azure Policy initiative as a whole.</li> <li>A type of virtual machine used for hosting policies in the Azure cloud: This option describes a virtual machine, which is not related to an Azure Policy initiative. An Azure Policy initiative is a way to package and deploy a collection of policy definitions, and is not a virtual machine.</li> </ul>
<ul> <li>An Azure service that provides real-time monitoring of policy enforcement:         This option describes a service for monitoring policy enforcement, which is not the same as an Azure Policy initiative. While an Azure Policy initiative can enforce policies, it is not a monitoring service.     </li> </ul>
Reference: https://learn.microsoft.com/en-us/azure/governance/policy/overview
Domain
Describe Azure management and governance (30–35%)
Question 54 Skipped
Yes or No:
Purchasing your own infrastructure and deploying it in your own data center is an example of CapEx.
○ No
Correct answer

○ Yes
Explanation  Yes, purchasing your own infrastructure and deploying it in your own data center is considered a capital expenditure (CapEx) because it involves a significant upfront investment in physical assets that will be used over an extended period of time. This type of investment is typically depreciated over time and is reflected on the company's balance sheet as a long-term asset.
Overall explanation  Deploying your own datacenter is definitely an example of CapEx. This is because you need to purchase all the infrastructure upfront before you can use it.
References: https://docs.microsoft.com/en-us/azure/architecture/cloud-adoption/appendix/azure-scaffold
<b>Domain</b> Describe cloud concepts (25–30%)
Question 55 Skipped Which storage redundancy option offers the highest level of durability, with a remarkable 16 nines of durability?
Locally redundant storage (LRS)
O Durable-redundant storage (DRS)
○ Zone-redundant storage (ZRS)
Correct answer

○ Geo-redundant storage (GRS)
Overall explanation
From the official documentation:
The storage redundancy option that provides the highest degree of durability, with 16 nines of durability, is <b>"geo-redundant storage (GRS)."</b> GRS copies your data synchronously within a single physical location in the primary region using locally redundant storage (LRS). It then copies your data asynchronously to a single physical location in the secondary region (the region pair) also using LRS. This combination of synchronous and asynchronous replication results in an extremely high level of durability, offering at least 16 nines (99.99999999999) of durability for Azure Storage data objects over a given year.
Also, there is no option known as DRS.
Reference: https://learn.microsoft.com/en-us/training/modules/describe-azure-storage-services/3-redundancy
<b>Domain</b> Describe Azure architecture and services (35–40%)
Question 56 Skipped
Yes or No:
Azure Reserved VM Instances are an example of Opex.
Correct answer  No
Explanation  No, Azure Reserved VM Instances are not an example of Opex. They require an upfront commitment for a one- or three-year term, which qualifies them as a capital expenditure

(Capex). This upfront payment for the VM instances differentiates them from operational expenditures (Opex) that are typically paid on a recurring basis.
○ Yes
Explanation  Azure Reserved VM Instances are an example of Capex, not Opex. By purchasing Reserved VM Instances, users commit to a one- or three-year term to receive a discount on the VM usage cost. This upfront commitment makes it a capital expenditure (Capex) rather than an operational expenditure (Opex).
Overall explanation
A reserved instance is where you pay upfront for the use of a virtual machine for a period of time (1 or 3 years). This can save you money as you receive a discount on the cost of a VM if you pay upfront for a reserved instance.
However, as this is an upfront payment, it will be classed as <b>CapEx</b> , not OpEx.
Simple way to remember: Upfront payment = Capex, Pay as you go = Opex!
Domain
Describe cloud concepts (25–30%)
Question 57 Skipped
An Azure Web App that queries an on-prem Oracle SQL Database is an example of a cloud architecture.
— multi-vendor
Explanation

public **Explanation** A public cloud architecture involves utilizing cloud services provided by a third-party cloud service provider, accessible to the public over the internet. In the given scenario, the integration of an on-prem Oracle SQL Database with an Azure Web App does not solely rely on public cloud services. private Explanation A private cloud architecture involves dedicated cloud resources that are exclusive to a single organization. The scenario of an Azure Web App querying an on-prem Oracle SQL Database does not align with the characteristics of a private cloud architecture, as it involves a mix of onpremises and cloud resources. Correct answer hybrid **Explanation** An Azure Web App that queries an on-prem Oracle SQL Database represents a hybrid cloud architecture. This is because it involves the integration of on-premises resources (Oracle SQL Database) with cloud-based resources (Azure Web App), allowing for a seamless connection between the two environments.

Since you are using both Azure, as well as on-prem resources ( A combination of both ) -

Overall explanation

> This is an example of a hybrid cloud!

A multi-vendor cloud architecture refers to the use of multiple cloud service providers to meet different business needs. In the given scenario, the architecture involves only Azure and an onprem Oracle SQL Database, so it does not fall under the category of multi-vendor architecture.

## From the Official Azure Documentation:

The benefits of a hybrid cloud platform

A hybrid cloud platform gives organisations many advantages such as greater flexibility, more deployment options, security, compliance and getting more value from their existing infrastructure. When computing and processing demand fluctuates, hybrid cloud computing gives businesses the ability to seamlessly scale up their on-premises infrastructure to the public cloud to handle any overflow – without giving third-party data centres access to the entirety of their data. Organisations gain the flexibility and innovation that the public cloud provides by running certain workloads in the cloud while keeping highly sensitive data in their own data centre to meet client needs or regulatory requirements.

This not only allows companies to scale computing resources, it also eliminates the need to make massive capital expenditures to handle short-term spikes in demand, as well as when the business needs to free up local resources for more sensitive data or applications. Companies will only pay for the resources they temporarily use instead of having to purchase, program and maintain additional resources and equipment that could remain idle over long periods of time.

Read more about hybrid cloud capabilities and getting started with Azure  $\,>\,$ 

Advantages of the hybrid cloud:

- Control your organisation can maintain a private infrastructure for sensitive assets or workloads that require low latency.
- Flexibility you can take advantage of additional resources in the public cloud when you need them.
- Cost-effectiveness with the ability to scale to the public cloud, you pay for extra computing power only when needed.
- Ease transitioning to the cloud doesn't have to be overwhelming because you can migrate gradually phasing in workloads over time.

Reference: https://azure.microsoft.com/en-in/overview/what-is-hybrid-cloud-computing/

#### **Domain**

Describe cloud concepts (25-30%)

Question 58 Skipped	^
True or False:	
You can create multiple billing reports per subs	
Correct answer	
○ False	
○ True	

## Overall explanation

#### From the Official Azure Documentation:

You can create one billing report per subscription. If you have multiple departments and need to do a "chargeback" of cloud costs, one possible solution is to organize subscriptions by department or by project.

Resource tags can also help.

**Reference:** https://docs.microsoft.com/en-ca/learn/modules/build-cloud-governance-strategy-azure/10-create-subscription-governance-strategy

## Domain

Describe Azure management and governance (30–35%)

Role-based access control is applied to a resources that this access applies to.	, which is a resource or set of
Blueprint	
Explanation	
	set of resources that role-based access

## **Explanation**

Group is not the correct term for the resource or set of resources that role-based access control applies to. Groups are used for organizing users and assigning permissions collectively, but they are not the same as the scope of access control.

<ul><li>Resource Set</li></ul>		
Explanation		

Resource Set is not the correct term for the resource or set of resources that role-based access control applies to. While it may refer to a collection of resources, it does not specifically define the boundaries for access control.

Correct answer

Scope

## **Explanation**

Scope is the correct term used to define the resource or set of resources that role-based access control applies to. It determines the boundaries within which access permissions are defined and enforced.

## **Overall explanation**

#### From the Official Azure Documentation:

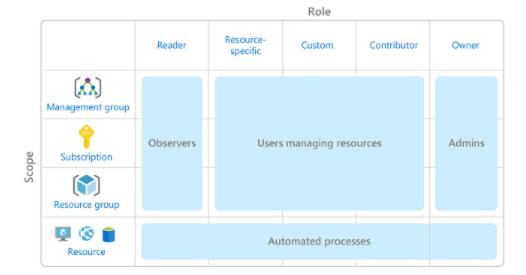
When you have multiple IT and engineering teams, how can you control what access they have to the resources in your cloud environment? It's a good security practice to grant users only the rights they need to perform their job, and only to the relevant resources.

Instead of defining the detailed access requirements for each individual, and then updating access requirements when new resources are created, Azure enables you to control access through Azure role-based access control (Azure RBAC).

Azure provides built-in roles that describe common access rules for cloud resources. You can also define your own roles. Each role has an associated set of access permissions that relate to that role. When you assign individuals or groups to one or more roles, they receive all of the associated access permissions.

Role-based access control is applied to a *scope*, which is a resource or set of resources that this access applies to.

Here's a diagram that shows the relationship between roles and scopes.



## Scopes include:

- A management group (a collection of multiple subscriptions).
- A single subscription.
- A resource group.
- A single resource.

**Reference:** <a href="https://docs.microsoft.com/en-ca/learn/modules/build-cloud-governance-strategy-azure/2-control-access-azure-rbac">https://docs.microsoft.com/en-ca/learn/modules/build-cloud-governance-strategy-azure/2-control-access-azure-rbac</a>

## **Domain**

Describe Azure management and governance (30–35%)

It provides real-time monitoring of network traffic.

Ouestion 60 Skipped
 How does Microsoft Purview contribute to data security and compliance?

 It enforces strict role-based access control for virtual machines.

 It encrypts data at rest and in transit.

## Correct answer

It helps classify and protect sensitive data and ensures compliance policies are followed.

## Overall explanation

Microsoft Purview provides a unified data governance solution to help manage and govern your on-premises, multicloud, and software as a service (SaaS) data. Microsoft Purview helps organizations classify and label data, apply data protection policies, and manage access controls. This ensures that sensitive data is properly protected and that compliance with data regulations is maintained, contributing to data security and compliance efforts.

**Reference:** https://azure.microsoft.com/en-ca/products/purview

#### Domain

Describe Azure management and governance (30–35%)

## **Question 61 Skipped**

A startup is planning to replace or supplement traditional on-premises network-attached storage (NAS) devices. More importantly, they are looking for a solution that supports multiple Operating Systems, and containerization.

Which of the following would you recommend?

Azure Container Instances

## Explanation

Azure Container Instances is a service that allows you to run containers without managing the underlying infrastructure. While it supports containerization, it is not a replacement for traditional NAS devices or a file share solution that supports multiple operating systems.

Azure Data Lake Storage Gen2
Explanation  Azure Data Lake Storage Gen2 is a scalable and secure data lake solution in Azure that is optimized for big data analytics. While it supports multiple operating systems, it is not designed to replace traditional NAS devices for general file sharing and containerization needs.
Correct answer  Azure Files
Explanation  Azure Files is a fully managed file share service in Azure that supports multiple operating systems and containerization. It provides the ability to share files across multiple virtual machines and supports SMB protocol, making it a suitable replacement for traditional NAS devices.
Azure Table Storage
Explanation  Azure Table Storage is a NoSQL key-value store in Azure that is designed for storing structured data. It does not provide the file share functionality required for traditional NAS replacement or support multiple operating systems.
Azure Kubernetes
Explanation  Azure Kubernetes is a container orchestration service in Azure that helps manage containerized applications. While it supports containerization, it is not a replacement for traditional NAS devices or a file share solution.
Azure Blob Storage

## **Explanation**

Azure Blob Storage is a scalable object storage solution in Azure that is optimized for storing massive amounts of unstructured data. While it is a good choice for storing large binary objects like images or videos, it does not provide the file share functionality required for traditional NAS replacement.

## Overall explanation

## From the Official Azure Documentation:

Azure Files offers fully managed file shares in the cloud that are accessible via the industry standard Server Message Block (SMB) protocol, Network File System (NFS) protocol, and Azure Files REST API. Azure file shares can be mounted concurrently by cloud or on-premises deployments. SMB Azure file shares are accessible from Windows, Linux, and macOS clients. NFS Azure file shares are accessible from Linux or macOS clients. Additionally, SMB Azure file shares can be cached on Windows servers with Azure File Sync for fast access near where the data is being used.

## Containerization:

Azure file shares can be used as persistent volumes for stateful containers. Containers deliver "build once, run anywhere" capabilities that enable developers to accelerate innovation. For the containers that access raw data at every start, a shared file system is required to allow these containers to access the file system no matter which instance they run on.

**Reference:** https://docs.microsoft.com/en-us/azure/storage/files/storage-files-introduction

## **Domain**

Describe Azure architecture and services (35–40%)

**Question 62 Skipped** 

What benefit does Infrastructure as Code (IaC) provide for disaster recovery scenarios?

It accelerates the download speed of cloud resources.
It enables version control for application code.
Correct answer
It ensures consistent infrastructure configuration replication.
It ensures consistent infrastructure configuration replication.
It ensures consistent infrastructure configuration replication.      It automates the creation of virtual machines.

## **Overall explanation**

From the official documentation:

**Infrastructure as Code (IaC)** is a key DevOps practice that involves the management of infrastructure, such as networks, compute services, databases, storages, and connection topology, in a descriptive model. IaC allows teams to develop and release changes faster and with greater confidence. Benefits of IaC include:

- Increased confidence in deployments
- Ability to manage multiple environments
- Improved understanding of the state of infrastructure

With IaC, you can create infrastructure configurations as code. This enables consistent replication of infrastructure settings, reducing the risk of configuration errors during disaster recovery scenarios.

**Reference:** <a href="https://learn.microsoft.com/en-us/azure/cloud-adoption-framework/ready/considerations/infrastructure-as-code">https://learn.microsoft.com/en-us/azure/cloud-adoption-framework/ready/considerations/infrastructure-as-code</a>

## **Domain**

Describe Azure management and governance (30–35%)
Question 63 Skipped
Which of the following is an excellent choice if you want to run multiple instances of an application on a single host machine?
○ Functions
Explanation
Functions in Azure are serverless compute resources that allow you to run code without managing infrastructure. While they are useful for specific use cases, they are not the best choice for running multiple instances of an application on a single host machine.
Correct answer
○ Containers
O Containers
<b>Explanation</b> Containers are an excellent choice for running multiple instances of an application on a single host machine. Containers provide a lightweight, isolated environment for running applications,
making it easy to scale and manage multiple instances efficiently.
○ Scale Sets
Explanation
Scale Sets in Azure allow you to create and manage a group of identical, load-balanced virtual
machines. While they are useful for scaling out applications across multiple virtual machines,
they are not specifically designed for running multiple instances of an application on a single host machine like containers.
Blueprints
Explanation

Blueprints are used for defining and managing the deployment of Azure resources. They are not specifically designed for running multiple instances of an application on a single host machine.

## Overall explanation

## From the Official Azure Documentation:

While virtual machines are an excellent way to reduce costs versus the investments that are necessary for physical hardware, they're still limited to a single operating system per virtual machine. If you want to run multiple instances of an application on a single host machine, containers are an excellent choice.

#### What are containers?

Containers are a virtualization environment. Much like running multiple virtual machines on a single physical host, you can run multiple containers on a single physical or virtual host. Unlike virtual machines, you don't manage the operating system for a container. Virtual machines appear to be an instance of an operating system that you can connect to and manage, but containers are lightweight and designed to be created, scaled out, and stopped dynamically. While it's possible to create and deploy virtual machines as application demand increases, containers are designed to allow you to respond to changes on demand. With containers, you can quickly restart in case of a crash or hardware interruption. One of the most popular container engines is Docker, which is supported by Azure.

**Containers** are managed through a container orchestrator, which can start, stop, and scale out application instances as needed. There are two ways to manage both Docker and Microsoft-based containers in Azure: **Azure Container Instances and Azure Kubernetes Service (AKS).** 

**Reference:** <a href="https://docs.microsoft.com/en-ca/learn/modules/azure-compute-fundamentals/azure-container-services">https://docs.microsoft.com/en-ca/learn/modules/azure-compute-fundamentals/azure-container-services</a>

#### Domain

Describe Azure architecture and services (35–40%)

resources?
Correct answer  An ARM template defines the desired state of Azure resources and their configuration.
An ARM template is a virtual machine template.
An ARM template is a resource type in Azure.
An ARM template is another name for Resource Groups and provides direct access to Azure data centers.
Overall explanation  An ARM template is used to declare the desired configuration of Azure resources. It defines the properties, settings, and dependencies of resources in order to achieve a specific deployment.
Reference: https://learn.microsoft.com/en-us/azure/azure-resource-manager/templates/overview
<b>Domain</b> Describe Azure management and governance (30–35%)
Question 65 Skipped Your organization needs to move all its data back to on-premises due to new government regulations. Which Azure service should you use to export data from Azure for this migration

Which of the following best describes the relationship between an ARM template and Azure

○ AzCopy
Explanation  AzCopy is a command-line tool provided by Microsoft for copying data to and from Azure storage. While it can be used for data migration tasks, it may not be the most efficient option for exporting large amounts of data back to on-premises environments, especially when compared to the dedicated Azure Data Box service.
Correct answer  Azure Data Box
Explanation  Azure Data Box is a physical device provided by Microsoft for securely transferring large amounts of data to and from Azure. It is specifically designed for scenarios where you need to move data in and out of Azure quickly and efficiently, making it the ideal choice for exporting data back to on-premises environments due to new government regulations.
Azure Data Factory
Explanation  Azure Data Factory is a cloud-based data integration service that allows you to create, schedule, and manage data pipelines for moving and transforming data. While it can be used for data migration tasks, it is not specifically designed for exporting large amounts of data back to on-premises environments.
Azure Site Recovery
Explanation  Azure Site Recovery is a service that helps you protect your on-premises workloads by replicating them to Azure. It is primarily used for disaster recovery and business continuity scenarios, not for exporting data back to on-premises environments.

## Overall explanation

The correct option is Azure Data Box. Azure Data Box is designed for transferring large amounts of data to and from Azure. In this scenario, where the organization needs to move all its data back to on-premises due to government regulations, Data Box is the most suitable choice. It provides a secure and efficient way to transfer large volumes of data without relying on limited or slow network connections.

## Wrong options:

- Azure Data Factory Azure Data Factory is a cloud-based data integration service that allows you to create, schedule, and manage data workflows. While it can be used to move and transform data, it's not the best option for largescale data export to on-premises, especially with limited network connectivity.
- Azure Site Recovery Azure Site Recovery is a disaster recovery service that
  helps protect and recover on-premises and Azure-based virtual machines. It is
  not designed for exporting large amounts of data from Azure to on-premises
  environments.
- AzCopy AzCopy is a command-line utility for copying data to and from Azure Storage. While it can be used for data transfers, it relies on network connectivity, which may not be suitable for transferring large amounts of data back to on-premises locations.

**Reference:** https://docs.microsoft.com/en-us/azure/databox/data-box-overview

#### Domain

Describe Azure architecture and services (35–40%)

## Question 66 Skipped

What is the recommended minimum data size for using Data Box to transfer data in scenarios with limited network connectivity?

**Correct answer** 

○ 40 TB
○ 100 TB
○ 20 TB
○ 10 TB
Data Box is an Azure service designed for offline data transfer when dealing with large data sizes and limited or no network connectivity. The recommendation for using Data Box is for data sizes larger than 40 TB. This is because, at such large data sizes, transferring data over the network can be slow, unreliable, or costly due to bandwidth limitations.  In scenarios with limited network connectivity, using Data Box helps avoid the challenges of slow data transfer speeds, potential data corruption, and high costs associated with transferring massive amounts of data over the network. By opting for Data Box, you ensure a secure, efficient, and cost-effective solution for moving large volumes of data to or from Azure.  Reference: https://learn.microsoft.com/en-us/training/modules/describe-azure-storage-services/6-identify-azure-data-migration-options
<b>Domain</b> Describe Azure architecture and services (35–40%)
Question 67 Skipped  Which of the following solutions is the BEST to store web app user data, device information and other metadata?  Correct answer

	) Azure Table Storage
Д u s	Explanation Azure Table Storage is a NoSQL key-value store that is ideal for storing large amounts of instructured data, such as user data, device information, and metadata. It provides a simple chema and can scale easily to accommodate growing data requirements, making it the best shoice for this scenario.
(	Azure Cache for Redis
A d	Explanation Azure Cache for Redis is an in-memory data store that is used for caching frequently accessed lata. While it can improve performance by storing temporary data, it is not the best solution for toring user data, device information, and metadata in a persistent manner.
(	Azure SQL Database
A d	Explanation Azure SQL Database is a relational database service in Azure that is suitable for structured lata storage. While it can store user data, device information, and metadata, it may not be the best choice for storing unstructured data or large amounts of metadata.
(	Azure Cosmos DB
۵ V	explanation Azure Cosmos DB is a globally distributed, multi-model database service that can handle arious types of data at scale. While it can store user data, device information, and metadata, it have nay be overkill for simple data storage needs and may incur higher costs.
	Overall explanation According to the official Azure documentation :



# Supports flexible data schema

Table storage is excellent for flexible datasets—web app user data, address books, device information, and other metadata—and lets you build cloud applications without locking down the data model to particular schemas.

Because different rows in the same table can have a different structure—for example, order information in one row, and customer information in another—you can evolve your application and table schema without taking it offline.

**Reference**: https://azure.microsoft.com/en-us/services/storage/tables/#overview

#### Domain

Describe Azure architecture and services (35–40%)

Question 68 Skipped
Which of the following is an event driven, compute-on-demand service, with capabilities to implement code triggered by events occurring in Azure or third party service as well as on-premises systems?
Azure Kubernetes
Explanation  Azure Kubernetes is a container orchestration service that automates the deployment, scaling, and management of containerized applications. It is not an event-driven, compute-on-demand service like Azure Functions, which is specifically designed for executing code in response to events.
Azure Machine Learning Studio
Explanation  Azure Machine Learning Studio is a collaborative, drag-and-drop tool for building, testing, and deploying machine learning models. It is not primarily focused on event-driven, compute-on-demand functions like Azure Functions.
○ Azure CosmosDB
Explanation  Azure CosmosDB is a globally distributed, multi-model database service that is designed for building highly responsive and scalable applications. While it is a powerful database service, it is not specifically focused on event-driven, compute-on-demand functions like Azure Functions.
Azure Serverless
Explanation

Azure Serverless is a broad term that encompasses various serverless computing services in Azure, including Azure Functions. While Azure Functions is a serverless service, Azure Serverless is not a specific service in Azure.

## Azure Policies

## **Explanation**

Azure Policies are used to enforce rules and effects for resources in an Azure environment to ensure compliance with organizational standards and service-level agreements. They are not related to event-driven, compute-on-demand services like Azure Functions.

#### **Correct answer**

Azure Functions

## **Explanation**

Azure Functions is the correct choice as it is an event-driven, compute-on-demand service that allows developers to implement code triggered by events occurring in Azure services, third-party services, or on-premises systems. It provides a serverless architecture for executing code in response to various events without the need to manage infrastructure.

## **Overall explanation**

## From the Official Azure Documentation:

Azure Functions is a serverless solution that allows you to write less code, maintain less infrastructure, and save on costs. Instead of worrying about deploying and maintaining servers, the cloud infrastructure provides all the up-to-date resources needed to keep your applications running.

You focus on the pieces of code that matter most to you, and Azure Functions handles the rest.

Reference: https://azure.microsoft.com/en-in/blog/introducing-azure-functions/

## **Domain**

Describe cloud concepts (25–30%)		

Question 69	<b>Skipped</b>
-------------	----------------

Which of the following options would meet these requirements?

- 1) SDKs for popular languages, APIs for SQL, MongoDB, Cassandra and more
- 2) Guaranteed speed at any scale with instant and limitless elasticity, fast reads, and multiregion writes anywhere in the world
- 3) The ability to work with NoSQL data

## **Explanation**

Azure Table Storage does not provide SDKs for popular languages, APIs for SQL, MongoDB, Cassandra, or other databases. It does not offer guaranteed speed at any scale with instant and limitless elasticity, fast reads, and multi-region writes. While it can work with NoSQL data, it does not meet all the requirements mentioned in the question.

## Azure Files

## Explanation

Azure Files is a fully managed file share service, but it does not provide SDKs for popular languages, APIs for SQL, MongoDB, Cassandra, or other databases. It does not offer guaranteed speed at any scale with instant and limitless elasticity, fast reads, and multi-region writes. While it can work with NoSQL data in some scenarios, it does not meet all the requirements outlined in the question.

## Azure Queues

## **Explanation**

Azure Queues is a messaging service that allows decoupling of components in a cloud application, but it does not provide SDKs for popular languages, APIs for SQL, MongoDB, Cassandra, or other databases. It does not offer guaranteed speed at any scale with instant

and limitless elasticity, fast reads, and multi-region writes. It does not directly support working with NoSQL data, making it not the best option for the specified requirements.

#### **Correct answer**

 $\circ$ 

## Azure Cosmos DB

#### **Explanation**

Azure Cosmos DB provides SDKs for popular languages, APIs for SQL, MongoDB, Cassandra, and more. It offers guaranteed speed at any scale with instant and limitless elasticity, fast reads, and multi-region writes anywhere in the world. Additionally, it supports working with NoSQL data, making it the ideal choice that meets all the specified requirements.

## Overall explanation

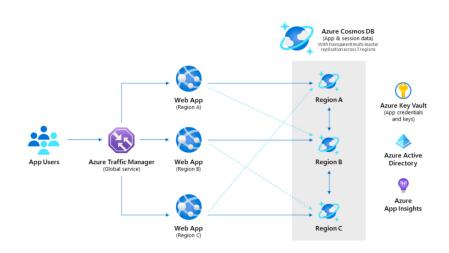
## According to the offical documentation:

Build or modernize scalable, high-performance apps

Azure Cosmos DB is a fully managed NoSQL database service for modern app development with guaranteed single-digit millisecond response times and 99.999-percent availability <u>backed by SLAs</u>, <u>automatic and instant scalability</u>, and open source APIs for MongoDB and Cassandra. Enjoy fast writes and reads anywhere in the world with turnkey multimaster global distribution.

# Mission-critical applications

Run your most critical workloads in any Azure region in the world with SLA-backed speed, availability, throughput, and consistency. Ensure business continuity with turnkey multi-master replication and enterprise-grade security and compliance including end-to-end encryption and access control. Azure Cosmos DB is trusted by leading enterprises globally including Coca-Cola, Symantec, and Citrix.



**Reference:** https://azure.microsoft.com/en-us/services/cosmos-db/#featured

#### **Domain**

Describe Azure architecture and services (35–40%)

Question 70 Skipped

Your IT teams need to quickly locate resources associated with specific workloads, environments, ownership groups, or other important information. Which of the following can you recommend?

Blueprints

## **Explanation**

Azure Blueprints enable you to define a repeatable set of resources that adhere to organizational standards, patterns, and requirements. While blueprints are useful for deploying consistent environments, they do not directly assist in locating resources based on specific criteria like workloads or ownership groups.

Azure Security Center

## **Explanation**

Azure Security Center focuses on enhancing the security posture of your Azure resources by providing security recommendations and threat protection. While it is essential for securing your resources, it does not specifically help in locating resources based on specific information like workloads or ownership groups.

**Correct answer** 

○ Tags

#### **Explanation**

Tags in Azure allow you to categorize and organize your Azure resources based on specific attributes like workloads, environments, ownership groups, or any other important information. By utilizing tags effectively, you can quickly locate resources based on these criteria, making it a suitable recommendation for the given scenario.

Azure Advisor
Explanation  Azure Advisor provides recommendations to optimize your Azure resources for high availability, security, performance, and cost. While it helps in improving resource efficiency, it does not directly assist in locating resources based on specific criteria like workloads or ownership groups.
Policies

## **Explanation**

Policies in Azure help you enforce rules and actions for your resources to ensure compliance with organizational standards and regulations. While policies are important for governance and compliance, they do not specifically aid in quickly locating resources based on specific information like workloads or ownership groups.

## Overall explanation

## From the Official Azure Documentation:

Organizing cloud-based resources is a crucial task for IT, unless you only have simple deployments. Use naming and tagging standards to organize your resources for the following reasons:

- Resource management: Your IT teams need to quickly locate resources
  associated with specific workloads, environments, ownership groups, or other
  important information. Organizing resources is critical to assigning
  organizational roles and access permissions for resource management.
- Operations management: Visibility for the operations management team about business commitments and SLAs is an important aspect of ongoing operations. For operations to be managed well, tagging for <u>mission criticality</u> is required.
- Security: Classification of data and security impact is a vital data point for the team, when breaches or other security issues arise. To operate securely, tagging

for data classification is required.

**Reference:** <a href="https://docs.microsoft.com/en-us/azure/cloud-adoption-framework/decision-guides/resource-tagging/?toc=%2Fazure%2Fazure-resource-manager%2Fmanagement%2Ftoc.json">https://docs.microsoft.com/en-us/azure/cloud-adoption-framework/decision-guides/resource-tagging/?toc=%2Fazure%2Fazure-resource-manager%2Fmanagement%2Ftoc.json</a>

## **Domain**

Describe Azure management and governance (30–35%)

Question 71 Skipped	^
Yes or No:	
All the resources residing in a Resource Group must belong to the same Region.	
Correct answer	
○ No	
○ Yes	

## **Overall explanation**

From the Official Azure Documentation:

Azure resources deployed to a single resource group can be located in different regions. **The resource group only contains metadata about the resources it contains.** 

When creating a resource group, you need to provide a location for that resource group. You may be wondering, "Why does a resource group need a location?

And, if the resources can have different locations than the resource group, why does the resource group location matter at all?"

The resource group stores metadata about the resources. When you specify a location for the resource group, you're specifying where that metadata is stored. For compliance reasons, you may need to ensure that your data is stored in a particular region.

**Reference:** https://docs.microsoft.com/en-us/azure/azure-resource-manager/management/manage-resource-groups-portal

#### **Domain**

Describe Azure management and governance (30–35%)

**Question 72** Skipped To begin using Azure Storage, you first create an Azure \_\_\_\_\_ to store your data objects. Correct answer **Storage Account Explanation** Creating an Azure Storage Account is the first step to begin using Azure Storage. A Storage Account provides a unique namespace in Azure for your data objects, such as blobs, files, queues, tables, and disks. O DNS **Explanation** DNS (Domain Name System) is not directly related to Azure Storage. It is a system that translates domain names to IP addresses, enabling users to access websites and other resources on the internet.

## Resource Group

#### Explanation

While a Resource Group is a logical container for grouping Azure resources, it is not specifically created to store data objects in Azure Storage. Resource Groups help manage and organize resources in Azure for easier management and billing.

# Storage Section

## **Explanation**

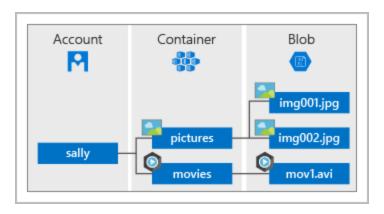
There is no such thing as a "Storage Section" in Azure. The correct term for storing data objects in Azure is a Storage Account, which provides the necessary namespace and access to Azure Storage services.

# Overall explanation

## From the Official Azure Documentation:

<u>Azure Storage</u> is a service that you can use to store files, messages, tables, and other types of information. Clients such as websites, mobile apps, desktop applications, and many other types of custom solutions can read data from and write data to Azure Storage. Azure Storage is also used by infrastructure as a service virtual machines, and platform as a service cloud services.

To begin using Azure Storage, you first create an Azure Storage account to store your data objects. You can create an Azure Storage account by using the Azure portal, PowerShell, or the Azure CLI. Your storage account will contain all of your Azure Storage data objects, such as blobs, files, and disks.



<b>Domain</b> Describe Azure architecture and services (35–40%)
Question 73 Skipped  Which aspect of data management does Microsoft Purview primarily address?
O Data storage optimization.
O Data migration between Azure regions.
Correct answer  Data discovery, classification, and governance.
Data transformation for analytics purposes.
Overall explanation  Microsoft Purview focuses on data discovery, classification, and governance. It helps organizations understand what data they have, where it resides, and how it's being used. It also provides tools for classifying and protecting sensitive data, ensuring compliance with data regulations.  Reference: <a href="https://azure.microsoft.com/en-ca/products/purview">https://azure.microsoft.com/en-ca/products/purview</a>
Domain

**Reference:** https://docs.microsoft.com/en-ca/learn/modules/azure-storage-

fundamentals/azure-storage-accounts

Describe Azure management and governance (30-35%)
Question 74 Skipped  Which of the following scenarios are suitable for using Data Box to import data to Azure?
Configuring real-time data synchronization between Azure and on-premises servers
Explanation  Data Box is not intended for real-time data synchronization between Azure and on-premises servers. It is optimized for one-time data transfers or periodic data migrations, rather than continuous real-time synchronization of data between on-premises and cloud environments.
☐ Incremental backups of Azure virtual machines
Explanation  Data Box is not designed for incremental backups of Azure virtual machines. It is more suitable for scenarios where a large amount of data needs to be migrated to Azure in a one-time transfer, rather than for ongoing incremental backups of virtual machines.
Correct selection  One-time migration of a large amount of on-premises data
Explanation  Data Box is suitable for one-time migrations of large amounts of data from on-premises environments to Azure. It provides a secure and efficient way to transfer data in bulk without relying on traditional network transfers, making it a suitable choice for scenarios where a large amount of data needs to be imported to Azure at once.
Correct selection  Moving a media library from offline tapes to Azure

## **Explanation**

Data Box is designed to help organizations move large amounts of data from offline storage devices, such as tapes, to Azure. It offers a secure and reliable method for transferring data from offline media to the cloud, making it an ideal solution for scenarios where a media library needs to be migrated to Azure.

# Overall explanation

The correct options are:

**One-time migration of a large amount of on-premises data:** Azure Data Box is an ideal solution for importing large volumes of data to Azure when network connectivity is limited or insufficient. It is suitable for one-time migration scenarios where you need to move a large amount of data from on-premises to Azure.

**Moving a media library from offline tapes to Azure:** Data Box can be used to move media libraries from offline tapes to Azure, creating an online media library. It provides a secure and efficient way to transfer large amounts of media files to Azure storage services.

Other options -

# Configuring real-time data synchronization between Azure and on-premises servers:

Data Box is designed for offline data transfers and is not meant for real-time data synchronization between Azure and on-premises servers. For real-time data synchronization, you might consider Azure File Sync or other data synchronization services.

**Incremental backups of Azure virtual machines:** Data Box is used for transferring data to or from Azure, not specifically for incremental backups of Azure virtual machines. To perform incremental backups of Azure VMs, you can use Azure Backup service, which is designed for that purpose.

**Reference:** <a href="https://learn.microsoft.com/en-us/training/modules/describe-azure-storage-services/6-identify-azure-data-migration-options">https://learn.microsoft.com/en-us/training/modules/describe-azure-storage-services/6-identify-azure-data-migration-options</a>

#### **Domain**

Describe Azure architecture and services (35–40%) **Question 75** Skipped You are a cloud administrator responsible for managing a large Azure environment with multiple subscriptions. You want to enforce a company-wide requirement that requires all virtual machines to be encrypted using Azure Disk Encryption. Which Azure service should you use to enforce this? Azure Security Center Explanation Azure Security Center focuses on providing security recommendations and threat protection for Azure resources. While it can help identify security vulnerabilities, it does not specifically enforce encryption requirements like Azure Disk Encryption for virtual machines. Microsoft Entra ID Azure Resource Manager **Explanation** Azure Resource Manager is a management service that allows you to deploy, manage, and organize Azure resources. While it is essential for resource management, it does not provide the specific enforcement capabilities needed to ensure all virtual machines are encrypted using Azure Disk Encryption. Correct answer Azure Policy

## **Explanation**

Azure Policy is the correct choice as it allows you to enforce company-wide requirements and compliance controls across Azure resources. By creating a policy that mandates the use of

Azure Disk Encryption for virtual machines, you can ensure that all VMs in your environment are encrypted.

# Overall explanation

The correct answer is **Azure Policy.** 

**Azure Policy** can be used to enforce company-wide policies across multiple Azure subscriptions, including policies related to Azure Disk Encryption. By creating a policy definition that requires all virtual machines to have Azure Disk Encryption enabled, you can ensure that this policy is applied consistently across your entire Azure environment.

Other options -

- Azure Security Center: This is a service that helps customers protect their Azure and on-premises resources from threats, but it is not designed specifically for enforcing policies related to Azure Disk Encryption.
- Azure Active Directory: This is a cloud-based identity and access management service, and while it can be used to manage access to Azure resources, it is not designed to enforce policies related to Azure Disk Encryption.
- **Azure Resource Manager:** This is a service that allows customers to manage resources in their Azure subscription, but it is not designed to enforce policies related to Azure Disk Encryption.
- multiple subscriptions.

**Reference:** https://docs.microsoft.com/en-us/azure/governance/policy/overview

## Domain

Describe Azure management and governance (30–35%)

notifies you about Azure service incidents and planned maintenance
so you can take action to mitigate downtime.
Azure Entra ID
Explanation
Azure Entra ID is a cloud-based identity and access management service. It is not designed to notify users about Azure service incidents and planned maintenance; its primary focus is on managing user identities and access to resources.
Correct answer  Azure Service Health
Explanation
Azure Service Health is the correct choice as it is specifically designed to notify users about Azure service incidents and planned maintenance. It provides real-time service health information and personalized guidance to help mitigate potential downtime.
Azure Trust Center
Explanation
Azure Trust Center focuses on security, privacy, compliance, and transparency in Azure services. While it provides valuable information, it is not the primary source for notifying users about service incidents and planned maintenance.
Azure Monitor
Explanation
Azure Monitor is a tool for collecting, analyzing, and acting on telemetry data from Azure services. While it can provide insights into service performance, it is not the dedicated platform for notifying users about service incidents and planned maintenance.

## Overall explanation

## From the Official Azure Documentation:

**Azure Service Health** provides personalised alerts and guidance for Azure service issues.

Azure Service Health notifies you about Azure service incidents and planned maintenance so you can take action to mitigate downtime. You can also configure customisable cloud alerts and use your personalised dashboard to analyse health issues, monitor the impact to your cloud resources, get guidance and support, and share details and updates.

#### IMPORTANT!

What's the difference between Service Health and the Azure status page?

The Azure status page is a global view of the health of all Azure services in all regions. It's a quick reference for incidents with widespread impact. Service Health keeps you informed about the health of your environment. It provides a personalised view of the status of your Azure services and regions, includes information about planned maintenance and current incidents, and offers richer functionality, including alerting and RCAs. See the documentation and watch this video to learn more.









Personalised dashboard shows the service Configurable cloud alerts notify you issues that affect you

about active and upcoming service issues incident root cause analyses

Shareable details and updates, including

Guidance and support during service

Reference: https://azure.microsoft.com/en-ca/features/service-health/

#### Domain

Describe Azure management and governance (30–35%)



**Question 77 Skipped** 

Which of the following statements about **public clouds** is **true**?

own infrastructure.
Explanation  Public clouds are known for their cost-effectiveness as organizations do not have to manage and configure their own infrastructure. Instead, they can leverage the shared resources and services provided by the cloud provider, leading to cost savings and scalability.
They are typically used by organizations that need to store highly sensitive data in private data centers.
Explanation  Public clouds are not typically used by organizations that need to store highly sensitive data in private data centers. Instead, organizations with sensitive data may opt for private clouds or hybrid cloud solutions to maintain greater control and security over their data.
Correct answer
They offer services and resources that are shared among multiple customers and managed by the cloud provider.
Explanation  This statement is correct as public clouds offer services and resources that are shared among multiple customers and managed by the cloud provider. This shared model allows for cost efficiency, scalability, and access to a wide range of services without the need for individual

Allowing organizations to focus on utilizing the cloud services and applications without the burden of infrastructure management.

Overall explanation

Public clouds are owned and operated by third-party providers, and resources (compute, storage, etc.) are shared among different organizations. Customers pay only for the resources they use, and the cloud provider manages the infrastructure, ensuring scalability and costefficiency.

Domain

Describe cloud concepts (25–30%)

Question 78 Skipped

Which of the following is not a cost saving solution?

Using Azure Hybrid Benefit to repurpose software licenses on Azure

## **Explanation**

Using Azure Hybrid Benefit to repurpose software licenses on Azure is a cost-saving solution that allows you to apply existing on-premises software licenses to Azure virtual machines, reducing the cost of running certain workloads on Azure.

O Deleting unused resources

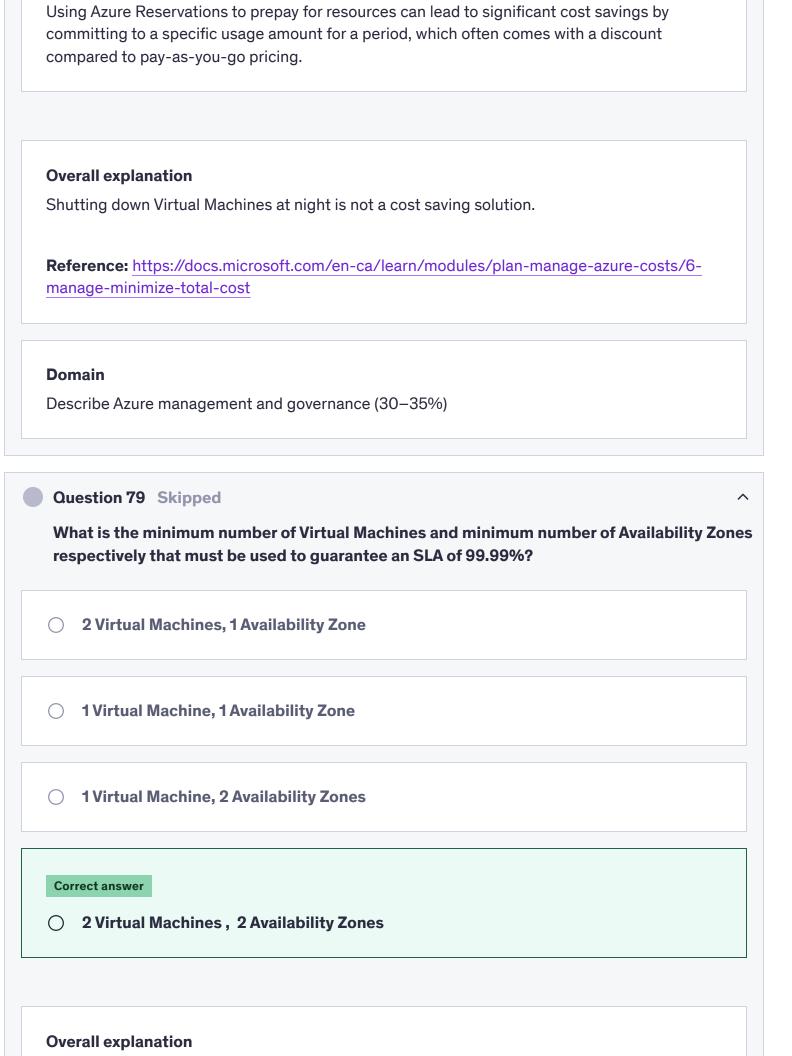
## **Explanation**

Deleting unused resources is a cost-saving solution as it eliminates charges for resources that are not actively being used, preventing unnecessary expenses from accruing.

Using spending limits to restrict your spending

spends.
Choosing low-cost locations and regions
Explanation  Choosing low-cost locations and regions can be a cost-saving solution as different Azure regions may have varying pricing for resources. Opting for regions with lower costs can help reduce your overall expenses.
Resize underutilized virtual machines
Explanation  Resizing underutilized virtual machines is a cost-saving solution as it allows you to match the resources allocated to a VM with its actual usage, avoiding unnecessary costs associated with over-provisioning.
Correct answer  Shutting down Virtual Machines at night
Explanation  Shutting down Virtual Machines at night is not a cost-saving solution as it only temporarily stops the usage of resources during non-business hours. While it may reduce some costs related to compute usage, it does not provide long-term savings compared to other solutions.
Using Azure Reservations to prepay
Explanation

Explanation



Azure offers industry best SLAs for VMs. However, to guarantee an SLA of 99.99%, you must have 2 or more instances deployed across 2 or more Availability Zones!

According to the official Azure documentation:

# **SLA for Virtual Machines**

Last updated: January 2020

• For all Virtual Machines that have two or more instances deployed across two or more Availability Zones in the same Azure region, we guarantee you will have Virtual Machine Connectivity to at least one instance at least 99.99% of the time.

**Reference:** https://azure.microsoft.com/en-us/support/legal/sla/virtual-machines/v1\_9/

#### Domain

Describe Azure architecture and services (35–40%)

# Question 80 Skipped

Which of the following best describes the **shared responsibility model** in **PaaS** (Platform-as-a-Service)?

#### **Correct answer**

The cloud provider secures the infrastructure, and the customer is responsible for securing the application code and data.

## **Explanation**

This choice is correct because in the shared responsibility model in PaaS, the cloud provider secures the infrastructure, such as servers, networking, and storage, while the customer is responsible for securing the application code and data that they deploy on the platform.

The cloud provider is responsible for the security of everything, including data and applications.

## **Explanation**

This choice is incorrect because in the shared responsibility model in PaaS, the cloud provider is not solely responsible for the security of everything, including data and applications. The responsibility is shared between the cloud provider and the customer.

The cloud provider is responsible for securing both the infrastructure and the application code, while the customer manages the data.

## **Explanation**

This choice is incorrect because in the shared responsibility model in PaaS, the cloud provider is not responsible for securing both the infrastructure and the application code. The customer typically manages the application code, while the cloud provider handles the infrastructure security.

The customer is responsible for securing the underlying infrastructure and operating system.

## **Explanation**

This choice is incorrect because in the shared responsibility model in PaaS, the customer is not responsible for securing the underlying infrastructure and operating system. The cloud provider typically handles these aspects of security.

# Overall explanation

In **PaaS**, the cloud provider is responsible for securing the **underlying infrastructure** (physical servers, networking, etc.), while the customer is responsible for securing their **applications** and **data**. This division of responsibilities allows customers to focus on building applications while relying on the provider for managing lower-level infrastructure security.

#### Domain

Describe cloud concepts (25–30%)