

AZURE FUNDAMENTALS AZ-900 PRACTICE QUESTIONS

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Question Types

This section describes the type of questions you will find on the AZ-900 certification Exam.

Multiple True/False

Two types:

True/false Sets:

- It is a separate section of the Exam.
- Each question has the same problem or scenario, but multiple possible solutions that might meet the stated goals.
- Some question sets might have more than one correct solution, while others might not have a correct solution.
- You will have to choose yes/no or True/False if each solution solves the problem.
- You cannot go back and change the answer.
- You will get a Disclaimer; it explicitly states that you cannot go back and change answers on the previous question.

Multi-Part true/false questions:

- You will have multiple yes/no, or, true/ false questions, all within the same general subject.
- Usually, you will be presented 3 yes or no questions.
- These questions will have multiple independent components that do not rely on the other parts of that question to choose yes or no.
- For multi-answer type questions, partial credit does apply, so you will get credit even if you do not answer all the correct ones.
- The yes or no answer for one does not affect the other ones below or above it. They are all completely independent.

	Yes	No
Customers are not full responsible for patching virtual machines.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Virtual machines allow full control over the operating system.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Virtual machines allow the use of custom software	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Multiple-Part Drop-Down Hotspot

You'll be given a question or scenario, and you'll be instructed to select a correct option in a variety of different dropdown menus.

<p>Identify which Microsoft service correspond to different cloud solutions.</p> <p>Select the correct option from the dropdown menu.</p>	Azure Storage	<div>Pass ▼</div> <div>Saas</div> <div>Laas</div>
	Azure VMs	<div>▼</div>
	Azure 365	<div>▼</div>

Multiple Choice

There are three to six options, but generally four. Questions will have one or more correct answers. Mix of single answers and multi-answers. For multi-answer type questions, partial credit does apply, so you will get credit even if you do not answer all the correct ones.

Statement (evaluating underlined text)

Decide whether a statement is correct or not. You will be given a statement, or a sentence, and you need to determine if the underlined text in that statement is correct as is or if it needs a replacement from a variety of other options. This is a very similar approach to multiple-choice questions in which you have multiple options to choose from with the difference that you are evaluating a

statement and whether the underlined text is correct. You are provided with 4 options, where one is no change required.

Drag and Drop

Drag several steps into the correct order of use or execution. Drag answer on left to matching description on right.

Hotspot

Click on an image to select the right area. Could be selecting the correct service.

Answer Strategy

Regardless of the specific question type, there are some general strategies that can be applied across all the questions to help us out.

The first of which is when presented with multiple answers, you want to start by eliminating the obviously incorrect answers first, giving you fewer options to choose from.

For multi-part questions, start with what you know first, which gives you more time to focus on what you may not know. And with all questions with multiple answers, partial credit does apply, so answer what you do know.

If you are not completely certain of the answer, again, start with what you know. It is easier to narrow down the unknown options if you first start by answering what you do know, leaving fewer options left to choose from.

Practice Questions

In this book, readers will find 220 questions and answers that are explained in detail to help them prepare for the AZ-900 certification exam. These questions cover various aspects of Azure services and technologies and provide an excellent opportunity for readers to test their knowledge and gain a deeper understanding of the subject matter. It is important to note that these questions are meant for practice and do not necessarily represent the actual questions that will be encountered on the certification exam. However, by working through this book, readers can gain the knowledge and skills necessary to successfully pass the AZ-900 exam. With the equivalent of 5 exams worth of questions and explanations, this book offers a comprehensive review of the material covered on the exam.

EXAM 1

1. Which of the following statements are true about vertical scaling?
 - a. Vertical scaling requires downtime to increase compute capacity.
 - b. Vertical scaling increases the compute capacity of an existing resource, usually by adding more CPUs or RAM to an existing VM.
 - c. Vertical scaling can occur automatically with no manual interaction.
 - d. Vertical scaling adds additional copies of a resource, like a VM or container, to a resource pool.
2. Choose 2 command-line tools that can be used to interact with Azure resources using the Azure CLI.
 - a. Bash
 - b. Python
 - c. PowerShell
 - d. ARM templates
3. Your company has several internal departments. Each department is responsible for purchasing its own IT equipment and services. The company plans to implement an Azure environment. You need to ensure that each department can use a different payment option for the Azure services it consumes. What should you create for each department?
 - a. Subscription
 - b. Management groups
 - c. Reservation
 - d. Azure Payment plan
4. Which of the below capabilities are enabled by Azure Arc?
 - a. Protect Amazon EC2 instances with Microsoft Defender for Cloud.
 - b. Privately connect on-premises networks to Azure-managed services.

- c. Enable running Azure serverless services (e.g., Azure Functions) in containerized form on on-premises servers.
 - d. Apply role-based access control (RBAC) policies on non-Azure servers.
- 5. Which cloud attribute is defined by knowing your application will perform as expected regardless of customer demand?
 - a. Reliability
 - b. Predictability
 - c. Governance
 - d. Manageability
- 6. Which of the following is true in relation to Azure Management Groups?
 - a. Management Groups allow you to implement policy-based management for all Azure services.
 - b. Management Groups allow you to easily create fully compliant environments and manage them.
 - c. Management Groups allow you to apply policies with flexible hierarchies to multiple subscriptions.
 - d. Management Groups allow you to create custom dashboards to view and analyse your cloud usage.
- 7. You have a requirement to select the optimal Azure service for storing large amounts of directly-accessible data, including image files, videos, and backup files. Which service should you choose?
 - a. Azure Files in a storage account
 - b. Queue storage in a storage account
 - c. Blob storage in a storage account
 - d. Cosmos DB
- 8. You've been given the task of creating a company-owned Azure network infrastructure that establishes a secure, private connection to all resources in those networks using only Azure's private network backbone. Your Azure resources are located in 2 different regions. What Azure services should you use to accomplish this task?

- a. Create a virtual network in each region, and connect both networks with network peering.
 - b. Create a virtual network in each region, and connect both networks with a VPN gateway connection.
 - c. Create a virtual network in each region, and connect both networks with a websocket connection.
 - d. Create a single Azure virtual network that spans both regions. All resources in this network will communicate over a private connection.
9. As part of your company's Azure migration, you plan on hosting an internal application with App Service. Your CFO needs an estimate of the monthly costs of running the application. Which Azure service should you use to create a monthly cost estimate?
- a. Azure TCO Calculator
 - b. Cost Management
 - c. Pricing calculator
 - d. Azure Arc
10. Your company is beginning their migration of on-premises servers to Azure. You need to plan the migration of several VMs and their hosted applications to Azure. This also requires discovering app dependencies on other servers necessary for continuation of service. Which Azure service is best able to help with this migration process?
- a. AzCopy
 - b. Azure Storage Explorer
 - c. Azure Data Box
 - d. Azure Migrate
11. Your company is planning to create a large, complex application using multiple types of microservices that will be deployed on Azure. You need to choose an Azure service that can orchestrate multiple containerized microservices with minimal management overhead. Which Azure service should you choose?

- a. Azure Kubernetes Service (AKS)
 - b. Azure Virtual Machines
 - c. Azure Container Instances
 - d. Azure Cloud Storage
12. Which of the following are characteristic of public clouds?
- a. Improved security
 - b. Higher maintenance
 - c. Lower costs
 - d. High scalability
13. What type of cloud architecture is Microsoft Azure generally best described as?
- a. Public Cloud
 - b. Private Cloud
 - c. Secure Cloud
 - d. Hybrid Cloud
14. Your company is spread across five offices and multiple departments, all of which use various Azure services. You need a consistent method to track which office and department is using which resources when it comes to cost tracking. What is the preferred method of labeling various Azure resources to track who is using what?
- a. VM images
 - b. Azure Blueprints
 - c. ARM templates
 - d. Tags
15. You have a business-critical database server running on an Azure VM. Because this server is business critical, you need to automatically notify your SRE team whenever CPU utilization rises above 90% for over 5 minutes. Which Azure service or feature is able to fulfill this requirement?

- a. Log Analytics
 - b. Application Insights
 - c. Azure Monitoring alerts
 - d. Azure Sentinel
16. Which of the following components are required for Azure Monitor alerts?
- a. Access Decisions
 - b. Alert Rule
 - c. Private Endpoint Connector
 - d. Action Group
17. You have an on-premises application that processes incoming queue messages and records the data to a log file. You migrate this application to an Azure function app. Which cloud service model would your application then be considered after this migration?
- a. Serverless
 - b. Infrastructure-as-a-Service (IaaS)
 - c. Platform-as-a-Service (PaaS)
 - d. Software-as-a-Service (SaaS)
18. Which of the following operating systems can have Azure CLI and Azure PowerShell installed? Choose all that apply.
- a. macOS
 - b. Windows
 - c. Linux
 - d. iOS
19. You need to select an Azure service that can connect multiple systems, including automating data flow between systems. You do not have a developer background and need to choose a no-code solution. What should you choose?
- a. Azure Cognitive Services
 - b. Azure Logic Apps

- c. Cosmos DB
 - d. Azure Functions
20. You are using Azure Blob Storage for long-term storage of security video footage to meet compliance requirements. Video files are accessed infrequently, yet must be readily available when needed. How should you meet these requirements with minimal cost?
- a. Store video files using the Cool storage tier.
 - b. Use Azure Files to store the video files.
 - c. Store video files using the Hot storage tier.
 - d. Store video files using the Archive storage tier.
21. What is the preferred method to run Azure serverless services, like Logic Apps, on your on-premises servers?
- a. Enable Azure Arc on your on-premises servers.
 - b. Enable Azure Sentinel on your on-premises servers.
 - c. It is not possible to run Azure services on non-Azure hardware.
 - d. Install the Logic Apps connector on your on-premises server.
22. You currently have two Azure Pay-As-You-Go subscriptions. You would like to combine these into a single subscription. How can you accomplish this?
- a. Using Azure CLI, run the `az account merge` command
 - b. Using Azure PowerShell, run the `Merge-AzureRmSubscription` cmdlet
 - c. In the Azure Portal, check both subscriptions then click the “Merge” button
 - d. Contact Microsoft Azure Support
23. Which of the following can support serverless cloud?
- a. Virtual Machine
 - b. App Service
 - c. Azure Logic Apps
 - d. Azure SQL

24. Select the cloud concept that is defined by: - Knowing that your application will perform as expected, even under heavy load.
- a. Scalability
 - b. Predictability
 - c. High availability
 - d. Reliability
25. Select which Azure service you should choose to run an application with the following requirements: - All software dependencies are bundled with the application source code - Bundled application is portable - Provision and run compute only when needed to save costs - Minimal management overhead
- a. Azure Cloud Storage
 - b. Azure Container Instances
 - c. Azure Kubernetes Service (AKS)
 - d. Azure Virtual Machines
26. Your corporate office hosts data for office users on an on-premises file server. You want to automatically synchronize the file server's data with Azure Files for backup/disaster recovery purposes. You also wish to enable remote users to operate from a synchronized copy of mapped drives in Azure Files in the future. Which tool would you recommend for this task?
- a. Azure Storage Explorer
 - b. Azure File Sync
 - c. Azure Data Box
 - d. AzCopy
27. Which cloud attribute describes how you manage and interact with cloud resources?
- a. Manageability
 - b. Reliability
 - c. Predictability
 - d. Governance

28. What is the concept in which you layer multiple stages of security such as physical security, network security, etc., to create a robust defense against cybersecurity threats?
- a. SIEM
 - b. Azure Firewall
 - c. Compliance management
 - d. Defense in depth
29. Which cloud attribute is defined as being able to create and enforce standardized environments, usually to meet corporate or government requirements?
- a. Reliability
 - b. Manageability
 - c. Predictability
 - d. Governance
30. Your company is beginning their migration of on-premises storage data to Azure. Your existing file server has over 60 TB of data, which is too much to transfer over an internet connection to an Azure Storage account. You want to send an initial bulk offline data transfer, which can be followed up by later transfers over the internet once the first bulk upload is complete. Which tool would you recommend to accomplish this task?
- a. AzCopy
 - b. Azure Data Box
 - c. Azure Storage Explorer
 - d. Azure File Sync
31. Your company, A Llama Guru, has increased its usage of Azure services over time. They are now using multiple subscriptions across various sectors of the company for a wide range of projects. As the number of subscriptions has increased, managing access and permissions across your numerous subscriptions has become quite cumbersome. What would you recommend to easily manage multiple subscriptions from a single source?

- a. Management groups
 - b. Azure Active Directory
 - c. Use resource groups to manage multiple subscriptions
 - d. Azure tenants
32. Which cloud attribute is defined by knowing what your cloud resources are going to cost as well as the ability to predict future costs through current trends?
- a. Manageability
 - b. Predictability
 - c. Governance
 - d. Reliability
33. You are the systems administrator for Highlander Cutlery, Inc. Your company has an on-premises network that contains multiple servers. As part of a headcount reduction, the company plans to reduce the following administrative responsibilities of network administrators. Backing up application data. Replacing failed server hardware. Managing physical server security. Updating server operating systems. Managing permissions to shared documents. The company plans to migrate several servers to Azure virtual machines. Which administrative responsibilities will be reduced after the planned migration?
- a. Updating server operating systems
 - b. Managing physical server security
 - c. Backing up application data
 - d. Managing permissions to shared documents
 - e. Replacing failed server hardware
34. Your company plans to move several servers to Azure. The company's compliance policy states a server named HRServer1 must be in a separate physical location from all other servers. Which Azure services can be used to meet the compliance policy requirements?

- a. One Azure region for HRServer1 and another Azure region for all other servers
 - b. A virtual network for HRServer1 and another virtual network for all other servers
 - c. One resource group for HRServer1 and another resource group for all other servers
 - d. A virtual network subnet for HRServer1 and a separate network subnet for all other servers
35. Which cloud attribute is defined by maintaining full control of the security of your cloud resources, including patch management and network control?
- a. Security
 - b. Manageability
 - c. Governance
 - d. Predictability
36. What is the purpose of Application Insights?
- a. Provides insights such as customer behavior, performance bottlenecks, and web application errors
 - b. Security information event management (SIEM) tool to monitor security of Azure resources
 - c. Lists planned and unplanned service outages of Azure resources
 - d. Gain insights from stored logs and metrics collected by Azure Monitor via queries
37. Which Azure tool allows you to view which user turned off a specific virtual machine during the last 14 days?
- a. Azure Activity Log
 - b. Azure Event Hubs
 - c. Azure Service Health
 - d. Azure Monitor

38. You are using Azure Blob Storage for long-term storage of server logs to meet compliance requirements. These files will be accessed, at most, once per year (if ever) and do not need to be immediately accessible. How should you meet these requirements with minimal cost?
- Store the server logs using the Cool storage tier.
 - Store the server logs using the Archive storage tier.
 - Store the server logs using the Hot storage tier.
 - Use Azure Files to store the server logs.
39. What is the purpose of Azure Monitoring alerts?
- Provide customer-interaction insights on your web-based applications.
 - Storage and analysis of logs and metrics, including queries of trends.
 - Proactive notifications to relevant personnel when there is a problem with your infrastructure or application.
 - Notifications of Azure service incidents that affect wide-scale Azure services.
40. Your corporation relies on compute services hosted on-premises, on Azure, and on AWS. You recently deployed Microsoft Defender for Cloud to your Azure resources and have been very pleased with the result. You would like to implement the “single pane of glass” functionality of Defender for Cloud for your AWS and on-premises resources. What is a required prerequisite to achieve this?
- Connect to the external resources with private endpoints.
 - AWS and on-premises resources must first have Azure Arc enabled.
 - Connect to the external resources with service endpoints.
 - Integrate the non-Azure services with Azure Sentinel.
41. You need to choose a performance option for an Azure storage account. This storage account will host disks for VMs, and requires the fastest possible performance. Which performance option should you choose?

- a. General-Purpose v2
 - b. Premium File Shares
 - c. Premium Block Blobs
 - d. Premium Page Blobs
42. You are deploying an application to Azure, hosted on virtual machines. You need to increase the reliability of this application, ensuring it is still available even if there is a datacenter outage. What should you do to ensure reliable operation of your application in case of a disaster?
- a. Implement a virtual machine scale set for the application
 - b. Deploy virtual machines to multiple resource groups
 - c. Deploy virtual machines to host the application in another zone
 - d. Deploy virtual machines with Azure Blueprints for increased governance
43. What are the components of a Conditional Access policy?
- a. Access Decisions
 - b. Azure Arc Agent
 - c. Signals
 - d. Action Group
44. Your website has recently been experiencing a higher number of errors in addition to performing below expectations. Which Azure tool is recommended to troubleshoot errors and performance bottlenecks?
- a. Log Analytics
 - b. Azure Service Health
 - c. Application Insights
 - d. Azure Arc

EXAM 2

1. Your company is beginning the process of migrating its existing applications to Azure. A business-critical accounting application requires authentication with the NTLM protocol. This application will be migrated to a virtual machine in Azure. You intend to eventually retire all on-premises resources and be 100% hosted in the cloud. You need to use your existing Active Directory (AD) domain/namespace in a cloud-hosted solution. What options are available for hosting this application in Azure while still being able to authenticate with Active Directory?
 - a. Configure the application to authenticate using Azure AD credentials over Single Sign On (SSO).
 - b. Continue using your on-premises AD server, and synchronize the server with Azure AD over Azure AD Connect. Configure the application to authenticate with your on-premises AD server.
 - c. Configure an Azure VM with Windows Server and operate as an Active Directory domain controller. Configure the application to authenticate with your VM-hosted AD server.
 - d. Configure the Azure Active Directory Domain Services (Azure AD DS) service to act as a fully managed Active Directory environment. Give the Azure AD DS instance a unique namespace and configure the application to authenticate with your Azure AD DS instance.
2. You need to choose a performance option for an Azure storage account. This storage account will host multiple storage formats, and will need to keep costs low, while maintaining an acceptable level of performance. Which performance option should you choose?
 - a. General-Purpose v2
 - b. Premium Page Blobs
 - c. Premium File Shares
 - d. Premium Block Blobs

3. Which of the following statements are true for IaaS cloud services?
- a. The client is responsible for all guest VM OS and application updates.
 - b. The client is responsible for purchasing all Operating System (OS) host licensing.
 - c. Services can be scaled automatically to support system load.
 - d. The client has complete control over the hardware hosting the VM.
4. You are deploying an application to Azure Virtual Machines. You want to ensure that the application will remain available in the event of a hardware failure or an OS update. What Azure concept will help most in this task?
- a. Availability set
 - b. Availability zone
 - c. Zone-redundant Storage
 - d. Locally redundant storage
5. Your company is migrating several types of existing on-premises resources to Azure. You need to migrate the functionality of your existing on-premises file server to Azure, which will act as a mapped drive location for multiple office desktops. This solution needs to use the Server Message Block (SMB) shares for file storage and management. What solution should you use?
- a. Blob storage container
 - b. Cosmos DB
 - c. Create a managed disk in a storage account
 - d. Azure Files
6. You are migrating your on-premises Microsoft Exchange email system to Office 365. What kind of cloud service would this be considered?
- a. Software-as-a-Service (SaaS)
 - b. Infrastructure-as-a-Service (IaaS)
 - c. Platform-as-a-Service (PaaS)
 - d. Serverless

7. You need to prevent any modifications to the configuration of a critical VM in an Azure resource group such as changing the VM size. You also need to prevent any accidental deletion of the VM. What should you use to accomplish this task?
- a. Apply a delete lock on the VM.
 - b. Apply an Azure Policy to the VM to prevent deletion.
 - c. Create a Conditional Access policy to prevent deletion.
 - d. Apply a read-only lock on the VM.
8. Choose all components that are required to create a secure IPsec tunnel over the public internet from an Azure virtual network to an on-premises location.
- a. Virtual network gateway
 - b. VPN device
 - c. ExpressRoute connection
 - d. Gateway subnet
9. You manage a large number of VMs in Azure, all of which are configured to log CPU performance metrics. You want to view a historical analysis of CPU utilization over time in order to find trends. How should you accomplish this?
- a. Send the CPU utilization metrics to a storage account blob container. From an Azure VM, install KQL and query the collected data.
 - b. Send the CPU utilization metrics to Application Insights. Within Log Analytics, run a query on the metrics to view trends over time.
 - c. Send the CPU utilization metrics to a Log Analytics workspace. Use Cosmos DB to query the metrics to view trends over time.
 - d. Send the CPU utilization metrics to a Log Analytics workspace. Within Log Analytics, run a query on the metrics to view trends over time.

10. What describes the cloud attribute of predictability?
- a. How you interact with and implement different cloud-based resources
 - b. The ability to create and enforce standardized environments, usually to meet corporate or government requirements
 - c. The resiliency of an application to continue operations even in the case of partial or wide-scale failures or outages
 - d. Knowing what your application will cost with real-time tracking of resource usage as well as knowing that your application will perform consistently regardless of customer load
11. Your Azure subscriptions uses a number of different services spread across multiple resource groups. You need an all-in-one view of the current and predicted costs of your resources. Which tool would you use to find this information?
- a. Cost Management
 - b. Azure Arc
 - c. Pricing calculator
 - d. Azure TCO Calculator
12. What is the purpose of Azure Conditional Access Policies?
- a. Securely store and provide access to connection credentials
 - b. Security Information Event Management (SIEM) tool to monitor security of Azure resources
 - c. Enforce conditions to grant or deny access to Azure AD resources in addition to username/password authentication.
 - d. Managed network firewall for Azure Virtual Networks
13. What describes the cloud attribute of management?
- a. Knowing what your application will cost with real-time tracking of resource usage as well as knowing that your application will perform consistently regardless of customer load
 - b. The ability to create and enforce standardized environments, usually to meet corporate or government requirements

- c. How you interact with and implement different cloud-based resources
 - d. Having full control, or even choosing how much control you want, over your cloud resources' security configuration
14. What is the security model that assumes all users are untrustworthy until they prove otherwise with a valid identity?
- a. Trusted Perimeter
 - b. External Guest Access
 - c. Conditional Access
 - d. Zero Trust
15. What is the name of the query language that Log Analytics uses?
- a. SQL
 - b. NewSQL
 - c. NoSQL
 - d. KQL
16. What is the purpose of the Service Trust Portal?
- a. Security monitoring at scale across your Azure and non-Azure resources
 - b. Track your Azure environment's adherence to your company's compliance requirements
 - c. Provides customers with Azure's compliance documentation
 - d. Provide authentication to Azure AD accounts based on specified conditions surrounding the login attempt
17. What describes the cloud attribute of security?
- a. Knowing what your application will cost with real-time tracking of resource usage as well as knowing that your application will perform consistently regardless of customer load
 - b. The ability to create and enforce standardized environments, usually to meet corporate or government requirements

- c. How you interact with and implement different cloud-based resources
 - d. Having full control, or even choosing how much control you want, over your cloud resources' security configuration
18. What is the purpose of Azure Arc?
- a. Enables private access to Azure PaaS services to a specific subnet in a virtual network
 - b. Extends Azure's control plane, allowing you to manage non-Azure resources as if they were in Azure
 - c. Enables an encrypted connection over a public internet connection between an on-premises network and an Azure virtual network
 - d. Provides insights on how customers are using your web-based application
19. What do you use to make sure that users of your application are who they say they are?
- a. Azure Subscriptions.
 - b. Azure Active Directory.
 - c. Azure Regions.
 - d. Authentication
 - e. Authorization
20. What tool provides cost information and would help to identify underutilized and idle Azure resources in order to help reduce overall spending?
- a. Application Insights
 - b. Azure Monitor
 - c. Azure Advisor
 - d. Azure Fundamentals
21. What is the necessary process for creating a hosted Azure Files storage service on Azure for Server Message Block (SMB) file storage?

- a. Create a storage account. Then, create an Azure Files share on the storage account.
- b. Create a virtual network. Then, create the Azure Files share as a resource on your virtual network.
- c. Create a managed SQL Server instance using the Azure Files configuration.
- d. Create a virtual machine. In the virtual machine configuration, select the hosted Azure Files disk management configuration.

22. From where can you launch Azure Cloud Shell?

- a. Azure portal
- b. Azure CLI
- c. AzCopy
- d. Azure Arc

23. Which of the following statements are true regarding the differences between Private Endpoints and Service Endpoints?

- a. Service Endpoints only provide private PaaS connectivity to a subnet in a virtual network. Private Endpoints extend private PaaS connectivity to connected networks, including on-premises.
- b. Private Endpoints allow you to completely disable public access to a managed PaaS service.
- c. Service Endpoints allow you to completely disable public access to a managed PaaS service and still allow access from non-Azure locations.
- d. Private Endpoints require Azure Arc to extend private connectivity to connected non-Azure networks. Service Endpoints do not have this requirement.

24. You are designing a hybrid network in which your Azure virtual network will need to establish a secure and private connection to your on-premises network via a high-speed leased line that directly connects to Azure. This connection cannot traverse the public internet. Which Azure service should you use to accomplish this task?

- a. Azure ExpressRoute
 - b. Azure VPN Gateway
 - c. Create an Azure Secure-net connection between both networks
 - d. Network peering connection
25. You have a virtual machine that is highly sensitive and requires complete isolation from any other virtual machines. What is the best service to use to achieve this requirement?
- a. Public IP address
 - b. Traffic manager
 - c. Load Balancer
 - d. Virtual network
26. How many tenants can a user in Azure Active Directory belong to?
- a. One main tenant and two child tenants.
 - b. 500
 - c. There is no limit.
 - d. It depends on the Azure subscription type.
27. You are designing an Azure infrastructure solution for your company's application. This solution must continue to function if a single datacenter goes offline. For compliance reasons, your infrastructure and data must reside in the same general location. How should you design this infrastructure?
- a. Use the Cosmos replication service to copy resources across fault domains.
 - b. Use region pairs to replicate resources.
 - c. Replicate your infrastructure across multiple regions.
 - d. Within a single region, replicate your infrastructure across multiple availability zones in that region.
28. Name the Azure organizational component that associates a billing account with your Azure environment.

- a. Management group
 - b. Subscription
 - c. Resource group
 - d. Azure Active Directory
29. Your company, Llamas-R-Us, currently owns a datacenter with 150 servers for various operations. Periodically, additional compute capacity is required beyond what your datacenter can support. Your CTO has requested a solution that will quickly and temporarily provide additional compute capacity when it is needed. Any solution must minimize costs and administrative effort. What should you recommend?
- a. Fully migrate your datacenter to a public cloud environment
 - b. Implement a hybrid cloud solution
 - c. Purchase additional servers to host in your datacenter
 - d. Implement a private cloud solution
30. Your company hosts VM servers in both Azure and AWS. Each cloud server uses its own management tools. In an effort to reduce administrative overhead, your CIO is requesting information on Azure-native services to manage policies on servers in both locations in the same place. Ideally, they want to apply the same Azure RBAC policies and automation routines on both Azure and AWS servers. How can you accomplish this request?
- a. Implement a service endpoint on the AWS resources to bring them under Azure's governance.
 - b. It is not possible to manage non-Azure resources within Azure.
 - c. Implement Azure Arc to manage and govern AWS servers within Azure.
 - d. Implement a private endpoint on the AWS resources to bring them under Azure's governance.
31. Which cloud concept describes the ability of a cloud service to be accessed quickly from any location via the internet?
- a. Low latency
 - b. Disaster recovery

- c. Dynamic scalability
 - d. Dynamic elasticity
32. You are designing a hybrid network in which your Azure virtual network will need to establish a secure and private connection to your on-premises network via an IPsec tunnel over the public internet. Which Azure service should you use to accomplish this task?
- a. Azure ExpressRoute
 - b. Azure VPN Gateway
 - c. Network peering connection
 - d. Create an Azure Secure-net connection between both networks.
33. Microsoft Office 365 is an example of which cloud deployment model?
- a. CASB
 - b. IaaS
 - c. PaaS
 - d. SaaS
34. As part of your company's Azure migration, your CFO needs a comparison of how much money would be saved by migrating their existing server cluster to Azure VMs. Additionally, migration savings must be calculated from migrating a server-hosted application to App Service. Which Azure tool can help provide cost-saving estimates of before/after migrations?
- a. Azure TCO Calculator
 - b. Cost Management
 - c. Azure Arc
 - d. Pricing calculator
35. You need to create a virtual machine with the following disk requirements:
- Hold up to 64TB in a single disk - Highest possible performance with sub-millisecond latency Which disk type should you select for your virtual machine?
- a. Premium SSD
 - b. Ultra

- c. High Performance
- d. Standard SSD

36. What describes the cloud attribute of governance?

- a. Knowing what your application will cost with real-time tracking of resource usage as well as knowing that your application will perform consistently regardless of customer load
- b. The resiliency of an application to continue operations even in the case of partial or wide-scale failures or outages
- c. The ability to create and enforce standardized environments, usually to meet corporate or government requirements
- d. How you interact with and implement different cloud-based resources

37. What is the purpose of Azure Blueprints?

- a. Synchronize on-premises AD with Azure AD.
- b. Collect security data from across all your Azure and non-Azure resources, providing a single pane of glass for security monitoring and management.
- c. Automated and repeatable environment setup in Azure.
- d. Automated and repeatable resource deployment in Azure.

38. Which of the following are valid Azure storage redundancy types

- a. Locally redundant storage (LRS)
- b. Zone redundant storage (ZRS)
- c. Read-access geo-zone-redundant storage (RA-GZRS)
- d. Global zone storage (GZS)

39. What are Azure Resource Manager (ARM) templates?

- a. Azure's native Infrastructure-as-Code (IaC) solution
- b. A component of Azure AD to allow authentication based on conditions (i.e., if-then statements) that must be met to either allow or deny access

- c. A declarative method to orchestrate the deployment of resource templates and other artifacts such as role assignments, policy assignments, resource templates, and resource groups
 - d. Azure's management construct that manages and controls access to all interaction with Azure
40. Your organization repeatedly deploys the same collection of resources across multiple departments. Your technology director wants to know if there is a quicker, more reliable method for consistently deploying the same resources. Which method would you recommend as the team's first step in automating the repeated deployment of individual resources?
- a. Azure Resource Manager (ARM) templates
 - b. Azure Resource Manager
 - c. Azure Blueprints
 - d. Conditional Access policy
41. Define the concept of "scalability."
- a. The ability of a system to handle increased load
 - b. A cloud service that remains available after a failure occurs
 - c. The ability of a cloud service to be accessed quickly from any location via the internet
 - d. A cloud service that responds quickly when demand increases and needs to be manually scaled down when demand decreases
42. What are the advantages of the Zero Trust security model?
- a. Limits rogue actors from accessing sensitive resources.
 - b. Allows access from any location once identity has been verified.
 - c. Restricts access to sensitive resources to users in trusted locations.
 - d. Allows extending the Azure management control plane to non-Azure resources.

43. Which of the following statements are true about horizontal scaling?
- a. Horizontal scaling requires downtime to increase compute capacity.
 - b. Horizontal scaling adds additional copies of a resource, like a VM or container, to a resource pool.
 - c. Horizontal scaling can occur automatically with no manual interaction.
 - d. Horizontal scaling does not require downtime.
44. Which of the following attributes describe public cloud offerings?
- a. Insecure connections to resources
 - b. Upfront hardware purchases
 - c. Pay-as-you-go pricing
 - d. Hardware configuration

EXAM 3

1. Which of the following statements about SaaS cloud services is correct?
 - a. The cloud service provider is responsible for all application upgrades.
 - b. The client is responsible for purchasing all client software.
 - c. Applications must be accessed from a secure network (aka VPN)
 - d. The client has complete control over the application.
2. Which of the following are benefits of Azure geographies?
 - a. Any Azure geography can be used by anyone
 - b. They are fault tolerant and can often withstand complete region failure
 - c. Data residency is honored within the geographical boundary
 - d. Azure has geographies throughout the world
3. You need to create an Azure storage solution that will store messages created by an Azure web role. The messages will then be processed by an Azure worker role. What type of storage solution should you create?
 - a. A Queue service in a storage account
 - b. A virtual machine data disk
 - c. A File service in a storage account
 - d. A Blob service in a storage account
4. What is the purpose of the Cost Management feature in Azure?
 - a. Create accurate estimates of hourly or monthly Azure costs across the entire Azure portfolio
 - b. Track your Azure environment's adherence to your company's compliance requirements
 - c. Monitors and analyzes the cost of your current Azure resources
 - d. Estimate the cost savings you can realize by migrating your existing workloads to Azure

5. You maintain a single virtual machine (VM) as an internal server. This server has two CPUs and 8 GB RAM. You decide to increase the capacity of the same server to four CPUs and 16 GB RAM. Which cloud attribute is this an example of?
 - a. Vertical scaling
 - b. Autoscaling
 - c. Horizontal scaling
 - d. Load balancing
6. Which Azure service can host your web apps without you having to manage underlying infrastructure?
 - a. Application Insights
 - b. Azure DataBricks
 - c. Azure WebJobs
 - d. Azure App Service
7. You need to implement multi-factor authentication (MFA) for Microsoft Cloud apps across your entire organization. The requirement for MFA needs to be centrally rolled out and enforced. What Azure functionality should you use to accomplish this task?
 - a. Azure AD Connect
 - b. Azure Information Protection
 - c. Network Security Groups (NSG)
 - d. Use a Conditional Access policy to roll out MFA to the entire organization
8. What are region pairs?
 - a. Two or more regions in an Availability Set
 - b. A region that is linked with another region in the same geography
 - c. Two geographies working together to host an application
 - d. A method to route traffic between two Availability Zones

9. You need a service to define and enforce compliance standards in multiple Azure subscriptions. What service or feature should you use?
- Conditional Access policy
 - ARM templates
 - Azure Policy
 - Azure Sentinel
10. Which of the following Azure offerings provide a platform for serverless computing?
- Azure Functions
 - Azure App Service
 - Azure WebJobs
 - Azure Service Bus
11. Your company uses a single, critical virtual machine that will be in place for years. You want to save costs on long-running virtual machines. What should you do?
- Azure Scale Sets
 - Use an Azure Reserved Virtual Machine Instance
 - Management groups
 - Use an Azure Spot Virtual Machine
12. What is the preferred method to synchronize user identities on an on-premises Active Directory server with Azure AD?
- Use Azure AD Connect in your Azure environment to synchronize on-premises and Azure AD accounts.
 - Use Azure AD Connect in your on-premises environment to synchronize on-premises and Azure AD accounts.
 - Use Azure Identity Protection in your on-premises environment to synchronize on-premises and Azure AD accounts.
 - It is not possible to synchronize an on-premises Active Directory server with Azure AD. For security reasons, they must be maintained separately.

13. You are migrating an on-premises application to the Azure Cloud. The application communicates with a file share hosted on a Windows server that no other applications have access to. Which Azure storage services could be used to migrate the file share to?
- Azure Virtual Machine
 - Azure Data Lake
 - Azure Disk Storage
 - Azure Files
14. What kind of information does Azure Information Protection protect?
- Office documents
 - Virtual hard disks
 - Email messages
 - Azure Blob Storage
 - PDF documents
15. What types of data does Azure Monitor collect?
- Subscription monitoring data
 - Only metrics
 - Metrics and logs
 - Only logs
 - Physical hardware data
16. Which Azure service can help you collect, analyze, and act on telemetry from your cloud and on-premises environments?
- Azure WebJobs
 - Azure App Service
 - Azure Monitor
 - Azure Analyzer
17. After enforcing multi-factor authentication via a Conditional Access policy, users are complaining about the extra steps required to log in to their Microsoft 365 accounts. What steps can you take to lessen the incon-

venience of this additional authentication step while still maintaining a strong security posture?

- a. Remove multi-factor enforcement, which will remove the additional security layer.
 - b. Implement passwordless authentication. Users will not enter a password at the system login prompt. Instead, they will authenticate using the Microsoft Authenticator app on their smartphones and answer a challenge after verifying ID with a PIN or biometric authorization.
 - c. Implement passwordless authentication. Users will not enter a password at the system login prompt. Instead, they will authenticate with the Google Authenticator app on their smartphones and answer a challenge after verifying ID with a PIN or biometric authorization.
 - d. In the affected Conditional Access policy, create an exception only for Microsoft 365 applications to not enforce MFA, but require MFA everywhere else.
18. From a pricing perspective, select the two statements that are true regarding infrastructure as a service virtual machines (VMs) and serverless resources, such as Azure Functions.
- a. Virtual machines are billed for the time they are running, whether or not they are in use.
 - b. Serverless resources, such as Azure Functions, are only billed for the entire time the function is created and ready to use.
 - c. Serverless resources, such as Azure Functions, are only billed when a function is executed (or run) and no longer billed once the function is no longer active.
 - d. Virtual machines are billed only when actively in use, such as when remoting into the machine.
19. Your organization is planning to migrate your entire datacenter to Azure. You are required to recommend an architected solution that will allow operations to continue if an entire Azure region becomes unavailable. Which cloud attribute should you factor into your solution?

- a. Predictability
 - b. Scalability
 - c. Security
 - d. Reliability
20. Which of the following components are required to establish communication between on-premises resources and resources in Azure?
- a. Route tables
 - b. VNet peer
 - c. Azure Virtual Network
 - d. VPN Gateway
21. You maintain a pool of identical virtual machines that serves an application behind a load balancer. When customer demand increases, you need to add additional copies of the virtual machine to the pool to meet customer demand. What cloud attribute does this demonstrate?
- a. Governance
 - b. Horizontal scaling
 - c. Vertical scaling
 - d. Security
22. You are the Systems Administrator for a local university. You are deploying several sets of systems that will be used for research and development teams. Each set of systems will be uniform in nature, containing the same number and type of Azure resources. What should you recommend to automate the creation of these Azure resources?
- a. Azure Resource Manager templates
 - b. Management groups
 - c. Multiple Azure Subscriptions
 - d. Virtual machine scale sets
23. You are the system administrator for T-Bones Restaurant Group, Inc. You currently have an on-premises data center that consists of 50 Windows servers running IIS and SQL Server. IT management has dictated that all

systems should be moved to Azure in the coming year. They also state that only platform-as-a-service (PaaS) solutions should be implemented. Which of the following meet these requirements?

- a. Azure Virtual Network
 - b. Azure App Service
 - c. Azure Virtual Machines
 - d. Azure SQL Database
24. You are the Azure Administrator for Radio Gaga, LTD. You have a resource group named RG-RG and need to ensure no other administrators can create virtual networks in this resource group. What can you implement to accomplish this?
- a. Azure policy
 - b. Properties
 - c. Access Control (IAM)
 - d. Locks
25. While you are at a customer site, you have been asked to quickly create a new development virtual machine for your developers to experiment with new code features. The only computing device you have available is an Apple iPad tablet running iOS. Which methods can you use to create the virtual machine?
- a. Create the VM with an ARM template via the iPad's command-line interface.
 - b. Install Bash on the tablet, and install the Azure module in PowerShell to create the resources.
 - c. Use the Azure portal.
 - d. Install PowerShell on the tablet, and install the Azure module in PowerShell to create the resources.
26. You need to reference how Microsoft secures their cloud infrastructure to meet strict compliance controls. What do you need to reference for this information?

- a. Conditional Access policies
- b. Compliance Manager
- c. Service Trust Portal
- d. Azure Arc

27. Which statement best describes a Hybrid Cloud architecture?

- a. Utilizes services of both Public and Private Clouds
- b. Does not require any on-premise hardware
- c. Special use case for secure Government workloads
- d. Cannot be used with Microsoft Azure

28. What are the three components necessary for any role-based access control (RBAC) assignment?

- a. Scope
- b. Security principal
- c. Conditional Access policy
- d. Role definition

29. Define “economy of scale”.

- a. Spending money on physical infrastructure up front, and then deducting that expense from your tax bill over time.
- b. The ability to do things more efficiently or at a lower cost per unit when operating at a larger scale.
- c. Spending money on products or services now and being billed for them now. You can deduct this expense from your tax bill in the same year.
- d. Prices for individual resources and services are provided so you can predict how much you will spend in a given billing period based on your expected usage.

30. You need to create a network drive in Azure Storage. The drive needs to be accessible from several computers that run Windows 8.1. What storage solution should you create?

- a. A virtual machine data disk
 - b. A File service in a storage account
 - c. A Blob service in a storage account
 - d. A Queue service in a storage account
31. What methods are available to connect to the Azure Public Cloud?
- a. Over the internet
 - b. Express Route
 - c. Client or Site to Site VPN
 - d. Physically at the Azure datacentre
32. You need to choose an Azure-native tool that enables you to manage, control, and monitor access to important resources in your organization. These resources include resources in Azure AD, Azure, and other Microsoft Online services such as Microsoft 365 or Microsoft Intune. What service should you choose?
- a. Azure Privileged Identity Management (PIM)
 - b. Azure Sentinel
 - c. Azure Key Vault
 - d. Azure Firewall
33. Which of the following Azure services are Platform as a Service (PaaS) solutions?
- a. Microsoft 365
 - b. Azure Functions
 - c. Azure Virtual Machines
 - d. Azure App Service
34. You need to prevent the accidental deletion of a critical VM in an Azure resource group. Personnel need to be able to change the configuration of the VM, if needed, such as changing the VM size. What should you use to accomplish this task?

- a. Apply a read-only lock on the VM.
 - b. Create a Conditional Access policy to prevent deletion.
 - c. Apply a delete lock on the VM.
 - d. Apply an Azure Policy to the VM to prevent deletion.
35. What are some of the advantages of using a subnet with your Azure Virtual Network?
- a. You can logically group services on the same Virtual Network.
 - b. Subnets contain security rules that allow or deny network traffic.
 - c. IP address allocation on the subnet is more efficient.
 - d. Virtual Machines will start faster, as the network provisioning is already done.
 - e. You can secure a subnet individually from the entire virtual network.
36. What is the aim of using Azure Functions in a serverless architecture on Azure?
- a. Be into the latest and greatest. All the cool kids are doing serverless.
 - b. Improve performance and splitting up data processing into many smaller parts.
 - c. To have each function do a single task, which enables high performance and separation of application responsibilities.
 - d. To get rid of virtual machines, as they are slow and costly.
37. Which of the following Azure storage types is most suitable for sharing files using the Server Message Block (SMB) protocol?
- a. Azure Files
 - b. Blob Storage
 - c. Disk Storage
 - d. Azure Storage Explorer
38. According to the Shared Responsibility Model, what are you responsible for managing in a PaaS product? Select 2 true answers.

- a. Application management
 - b. Hardware management
 - c. Operating system management
 - d. Information and data
39. Which of the following represents the billing entity for our Azure resource costs?
- a. Resource groups
 - b. Management groups
 - c. Azure accounts
 - d. Subscriptions
40. What is the purpose of the Total Cost of Ownership (TCO) calculator on Azure?
- a. Monitors and analyzes the cost of your current Azure resources
 - b. Estimate the cost savings you can realize by migrating your existing workloads to Azure
 - c. Track your Azure environment's adherence to your company's compliance requirements
 - d. Create accurate estimates of hourly or monthly Azure costs across the entire Azure portfolio
41. You and your team interact with Azure Storage. You want to recommend a locally installed tool that provides a user-friendly drag-and-drop GUI interface to transfer all storage types. Which tool would you recommend?
- a. AzCopy
 - b. Azure Storage Explorer
 - c. Azure Data Box
 - d. Azure File Sync

42. In Azure, we use roles to ensure separation of responsibilities. We want to control the ability for our teams to manage billing within Azure. We assign the Billing Admin role to the necessary personnel within our organization. Which of the following can these billing administrators now manage within Azure?
- a. Azure accounts
 - b. Management groups
 - c. Subscriptions
 - d. Resource groups
43. According to the Shared Responsibility Model, what are you responsible for managing in a SaaS product? Select 2 true answers.
- a. Application management
 - b. Operating system management
 - c. Information and data
 - d. Devices and accounts
44. Which are considered serverless services on Azure?
- a. Event Grid
 - b. Azure Front Door
 - c. Azure Data Lake Analytics
 - d. Azure Functions
 - e. Azure Logic Apps
 - f. App Services

EXAM 4

1. Which of the following is true of the Cost Management feature in Azure?
 - a. Create cost estimates for multiple implementation scenarios
 - b. Create alerts for unexpectedly high expenses
 - c. Create budgets to proactively manage and monitor costs
 - d. View Azure Advisor recommendations for reducing costs
2. Your company, A Llama Guru, is becoming increasingly popular (why wouldn't it be?). You have to add more virtual machines to run your web facing application. What is the best way to ensure that traffic is distributed and that all virtual machines are being used optimally?
 - a. Use an Azure Application Gateway to recognize the application requested and guide the traffic to the appropriate machine.
 - b. Use a VPN Gateway to route secure and insecure requests to the appropriate virtual machine in your backend pool.
 - c. Create a pool of identical virtual machines that can all take an equal share of the incoming requests.
 - d. Use Azure Load Balancer to distribute the inbound flow of internet traffic to a backend pool of virtual machines.
3. What is the purpose of Log Analytics?
 - a. Security information event management (SIEM) tool to monitor security of Azure resources
 - b. Provides insights to web applications, such as customer behavior, performance bottlenecks, and errors
 - c. Gain insights from stored logs and metrics collected by Azure Monitor via queries
 - d. Lists planned and unplanned service outages of Azure resources
4. Management groups are **not** used to do which of the following for our organization?

- a. Manage access control
 - b. Manage resource lifecycle
 - c. Manage compliance
 - d. Manage policies
5. The Cosmos DB instance that your application uses has suddenly stopped responding. You cannot find any misconfigurations in your database; however, it is still unresponsive. You need to rule out an outage before you perform additional troubleshooting. What should you do?
- a. Check Azure Monitor for any outages.
 - b. Check Azure Sentinel for any outages.
 - c. Check Azure Service Health for any outages.
 - d. Check Synapse Analytics for any outages.
6. Which Azure service delivers a comprehensive solution for collecting, analyzing, and acting on telemetry from your cloud and on-premises environments?
- a. Azure Sentinel
 - b. Azure Blueprints
 - c. Azure Monitor
 - d. Azure Policy
7. Your company is migrating an internal web application to the cloud. The application requires specific configuration changes within the Operating System. Which of the following cloud deployment solutions would be most suitable?
- a. Infrastructure as a Service (IaaS)
 - b. Software as a Service (SaaS)
 - c. Platform as a Service (PaaS)
 - d. Function as a Service (FaaS)
8. How does passwordless authentication ease the burden of signing in with multi-factor authentication?

- a. Passwordless authentication requires both a system password and multi-factor authentication from an approved device.
 - b. No password is required to log in, only a valid username.
 - c. A username is replaced by a secure PIN code.
 - d. Removes the system password and replaces it with device authentication combined with biometrics/PIN.
9. Your company is beginning the process of migrating their existing applications to Azure. A business-critical accounting application requires authentication with the NTLM protocol. This application will be migrated to a virtual machine in Azure. Which options are available for hosting this application in Azure while still authenticating with Active Directory?
- a. Configure an Azure VM with Windows Server, and operate as an Active Directory domain controller. Configure the application to authenticate with your VM-hosted AD server.
 - b. Configure the Azure Active Directory Domain Services (AADDS) service to act as a fully managed Active Directory environment. Give the AADDS instance a unique namespace and configure the application to authenticate with your AADDS instance.
 - c. Continue using your on-premises AD server, and synchronize the server with Azure AD over Azure AD Connect. Configure the application to authenticate with your on-premises AD server.
 - d. Configure the application to authenticate using Azure AD credentials over single sign-on (SSO).
10. Your company wants to make use of Azure for deployment of various solutions. They want to ensure suspicious attacks and threats using compromised credentials to resources in their Azure account are prevented. Which of the following helps prevent such attacks by using in-built sensors in Azure?
- a. Microsoft Defender for Identity (formerly Azure Advanced Threat Protection)
 - b. Azure AD Identity Protection
 - c. Azure DDoS Protection
 - d. Azure Privileged Identity Management

11. What is the purpose of a resource lock in Azure?
- Enforce standards and restrictions in a subscription or resource group.
 - Synchronize an on-premises AD server with Azure AD.
 - Prevent accidental deletion or modification of critical resources.
 - Manage authentication of Azure AD accounts based on conditions of the authentication attempt.
12. Which of the following is a correct statement regarding Azure?
- Management groups represent the billing entity for our Azure resource costs.
 - Azure accounts can only be associated with a single Azure subscription.
 - Non-root management groups can have only a single parent management group and many child management groups.
 - Resource groups are used as a billing container for our Azure resource costs.
13. Your application is hosted on a VM scale set that is able to automatically add and remove individual VMs based on application load. What cloud concept is demonstrated in this example?
- OpEx
 - Reliability
 - Responsive computing
 - Scalability
14. Your organization hosts a customer-facing application that is used to generate revenue. Demand fluctuates at different periods of the day: it is most active during daytime hours, but does not have much traffic overnight. The application needs to automatically increase and decrease compute capacity to meet demand, but not run up costs when demand is low. Which cloud attribute describes the ability for public cloud offerings to meet this requirement?

- a. Customer management
 - b. Reliability
 - c. Governance
 - d. Scalability
15. When implementing passwordless authentication with Azure AD, what authentication methods are currently available to use?
- a. Windows Hello
 - b. Microsoft Authenticator
 - c. Facebook Authenticator
 - d. FIDO2 Security Key
16. Our organization is planning to use Azure. We have gathered from planning meetings that we will need to segment billing between various departments, such as marketing and human resources. Which of the following would be the best way to implement segmentation of billing for Azure?
- a. Create a separate subscription for each department under our Azure account.
 - b. Create a management group for each department.
 - c. Create a separate Azure account for each department to use.
 - d. Create separate resource groups for each department to deploy their resources.
17. Our organization is really starting to grow within Azure. We have several subscriptions at this point, and managing access control to these subscriptions for a single Azure AD tenant is becoming cumbersome. Which of the following would allow our organization to manage access control to our Azure subscriptions?
- a. Billing admin role assignment
 - b. Management groups
 - c. Resource groups
 - d. Access control cannot be managed between various subscriptions associated with our Azure tenant.

18. Llama Financial is our organization, and we are in charge of our cloud spend. At this time, we do not have a way to manage our cloud spend in an automated fashion. Which of the following tools could we use to automate management of our cloud spend on Azure?
- a. Subscriptions
 - b. Cost Management tool
 - c. Pricing calculator
 - d. TCO calculator
19. Which of the following statements is true in regards to Azure billing for our Azure subscriptions?
- a. In Azure, billing cycles are weekly and require payment within 7 days.
 - b. In Azure, billing cycles are always due upfront.
 - c. In Azure, billing cycles are monthly and require payment within 30 or 60 days.
 - d. In Azure, billing cycles are quarterly and require payment immediately.
20. You have a web application on Azure with a number of virtual machines to run various processes. One of these virtual machines is in charge of processing images. Which Azure service could you use to route all requests for the “/image/” URLs to this specific VM?
- a. Use Azure Load Balancer to route URLs containing the “/image/” path.
 - b. Implement a content delivery network to route URLs containing the “/image/” path.
 - c. Use a VPN Gateway to route URLs containing the “/image/” path.
 - d. Use an Application Gateway to route URLs containing the “/image/” path.
21. Which of the following are Platform-as-a-Service (PaaS) database offerings on Azure?

- a. SQL Server Private Cloud
 - b. Azure SQL Database
 - c. Azure MySQL Database Platform
 - d. Cosmos DB
22. What Cloud model allows you to have complete control over the operating system?
- a. Software as a Service (SaaS)
 - b. Infrastructure as a Service
 - c. Platform as a Service
23. Which of the following Azure Resource Manager tools are able to run a PowerShell script?
- a. Azure CLI
 - b. Azure PowerShell
 - c. Azure Cloud Shell via the Azure portal
 - d. Azure CLI via Google Chromebooks
24. You need to choose a performance option for an Azure storage account. This storage account will contain small blob objects used to train machine learning models, and it requires the fastest possible performance. Which performance option should you choose?
- a. Premium file shares
 - b. Premium page blobs
 - c. General-purpose v2
 - d. Premium block blobs
25. In Azure, how many free trial subscriptions can we have per Microsoft account?
- a. Microsoft does not provide a free trial subscription for Azure.
 - b. Microsoft accounts can have only a single free trial subscription to Azure.

- c. Microsoft accounts can have access to 3 free trial subscriptions.
 - d. Microsoft accounts can have unlimited free trial subscriptions.
26. To access the Azure Portal in a web browser, what website URL do you need to visit?
- a. console.azure.com
 - b. portal.microsoftazure.com
 - c. portal.azure.com
 - d. www.azureportal.com
27. The Cost Management tool is used to manage Azure costs. Who is able to use the Cost Management tool?
- a. Only EA subscriptions have access to the Cost Management tool.
 - b. Any Azure account subscribed to the Cost Management tool.
 - c. Microsoft Azure doesn't have a Cost Management tool at this time.
 - d. All Azure subscriptions have access to the Cost Management tool.
28. Which of the following is a Software as a Service (SaaS) solution?
- a. Azure Functions
 - b. Azure SQL Databases
 - c. Azure App Service
 - d. Microsoft Office 365
29. You are inviting an external consultant to help implement a new Azure initiative. You would prefer the consultant use their existing identity credentials to access your Azure tenant's resources, so you will provide external guest access to your Azure tenant. What must the consultant have in order to use their existing identity credentials?
- a. A valid email account
 - b. An account with a known identity provider
 - c. A Conditional Access policy
 - d. A Microsoft account only

30. In our organization, we are planning to deploy a virtual machine workload to host our robotic process automation solution. Which of the following tools can estimate the costs of the virtual machines for this workload?
- TCO calculator
 - Pricing calculator
 - Cost Management tool
 - Support request
31. Name 2 benefits unique to using Government Cloud on Azure.
- Dedicated regions for data isolation
 - Access to Compliance Manager to meet compliance requirements
 - Dedicated Hosts
 - Screened personnel
32. To access the Azure Cloud Shell (>_), what do you need to do?
- Select the icon (>_) in the top menu of the Azure Portal.
 - The Cloud Shell is not accessible from the Azure Portal.
 - Select the icon (>_) in the list on the left menu of the Azure Portal.
 - Type Open Cloud Shell in the Azure Portal search bar.
33. Which of the following statements regarding Azure Virtual Machines is true?
- Two virtual machines with the same size will incur the same monthly charges.
 - Deleted virtual machines will still incur charges for storage.
 - Virtual machines can be auto-resized to combat system performance.
 - If a virtual machine stays stopped and de-allocated for 30 days, it will be deleted.

34. What is the purpose of Azure AD Connect?
- a. Create if-then statements for allowing/denying authentication to different applications, including conditions to require multi-factor authentication.
 - b. SIEM tool that is able to collect security data from across all your Azure and non-Azure resources, providing a single pane of glass for security monitoring and management.
 - c. Synchronize user identities in an on-premises AD environment with Azure AD.
 - d. Cloud-based security solution that works with on-premises Active Directory to detect threats.
35. What is the name of the logical container used to group together and manage resources in Azure?
- a. Resource Folders.
 - b. Resource Groups.
 - c. Cloud Folders.
 - d. Cloud Groups.
36. Which of the following tools provides us the ability to analyze Azure costs and makes cost-savings recommendations?
- a. Cost Management tool
 - b. Log Analytics
 - c. TCO calculator
 - d. Pricing calculator
37. We are running a non-critical workload on Azure using on-demand virtual machines. This workload can have interruptions as it is not business critical. We recently used the Cost Management tool to analyze that we are spending a lot of money on Azure. We decide to look for a solution for decreasing the costs of this non-business-critical workload. Which of the following would provide us cost savings of up to 90% on this workload?
- a. Virtual Machine scale sets
 - b. Spot Virtual Machines

- c. Reserved Virtual Machines
 - d. Make no changes, On-Demand Virtual Machines provide the 90% cost savings
38. Which of the following tools can be used to manage Azure resources on a Google Chromebook?
- a. Azure Cloud Shell
 - b. PowerShell
 - c. Azure portal
 - d. Azure CLI
39. What is the purpose of Conditional Access policies?
- a. Synchronize on-premises Active Directory environments with Azure AD.
 - b. Component of Azure AD to allow authentication based on conditions (i.e., if-then statements) that must be met to either allow or deny access.
 - c. Manage network access to virtual machines in a virtual network.
 - d. Provide time-based and approval-based role activation to mitigate the risks of excessive, unnecessary, or misused access permissions on resources.
40. What is the purpose of role-based access control (RBAC)?
- a. Method of organizing subscriptions into groups that can be given roles and policies in a single location.
 - b. Create if-then statements for allowing/denying authentication to different applications, including conditions to require multi-factor authentication.
 - c. Synchronizes an on-premises Active Directory environment with Azure AD.
 - d. Authorization system built on Azure Resource Manager that provides fine-grained access management of Azure resources.

41. Which of the following is true when calculating costs in Azure related to bandwidth?
- a. All network costs, including ingress and egress, are free for Azure
 - b. Inbound data transfer between Azure services located in two regions is charged
 - c. Outbound data transfer between Azure services located in two regions is charged
 - d. Data transfer between Azure services located within the same region is charged
42. App Services allows you to create web, mobile, API and logic apps. In the shared responsibility model, what model is App Services aligned to?
- a. Software as a Service (SaaS)
 - b. Platform as a Service (PaaS)
 - c. Infrastructure as a Service (IaaS)
 - d. Hybrid as a Service
43. What command-line environments are available for use in the Azure Cloud Shell?
- a. PowerShell
 - b. MS-DOS
 - c. Bash
 - d. Windows
44. Which Azure service can you use to make sure your virtual machines are running smoothly and without problems?
- a. Azure Monitor.
 - b. Azure Defender for Identity (Azure Advanced Threat Detection)
 - c. Azure Information Protection
 - d. Azure Blueprints.

EXAM 5

1. What are the characteristics of an Availability Zone?
 - a. Each zone runs different Azure services.
 - b. Availability Zones only apply for Storage Accounts.
 - c. Availability Zones protect your instances from the failure of a single datacenter.
 - d. Each zone has its own isolated power, cooling, and networking.
 - e. Availability Zones exist within regions.
2. Which of the following can be configured through Azure Blueprints?
 - a. Role Assignments
 - b. Policy Assignments
 - c. All of the answers
 - d. Resource Manager Templates
3. To better improve your Azure AD accounts, you want to centrally enforce and manage multi-factor authentication for all administrator accounts that log in to Azure. How should you accomplish this?
 - a. Enable Zero Trust in Azure AD (AAD) to enforce MFA (multi-factor authentication).
 - b. Implement Azure Active Directory Domain Services (AADDS) to enforce MFA.
 - c. Create a Conditional Access policy that requires administrator accounts to authenticate with MFA when they log in to Azure.
 - d. Enable single sign-on (SSO) to enforce MFA.
4. Select the cloud concept that is defined by: - Using clusters of VMs to ensure resource availability - a set of technologies that minimize IT disruptions by providing business continuity of IT services through redundant, fault-tolerant, or failover-protected components within an Azure region

- a. Reliability
 - b. Scalability
 - c. High availability
 - d. Agility
5. Which of the following is an Azure compute service?
- a. Azure Advisor.
 - b. Azure SQL Database.
 - c. Azure Functions.
 - d. Azure Data Factory.
6. Which Azure service should you use to correlate metrics and logs from multiple Azure resources into a centralized repository?
- a. Azure Event Grid
 - b. Azure Event Hubs
 - c. Azure Monitor
 - d. Azure SQL Data Warehouse
7. Which type of cloud service gives you the most flexibility and control over the solutions you implement?
- a. IaaS
 - b. PaaS
 - c. SaaS
 - d. FaaS
8. You need to view performance metrics and customer usage for your website. Which Azure service is able to help with this?
- a. Azure Service Health
 - b. Log Analytics
 - c. Application Insights
 - d. Azure Sentinel
9. What is the description of a region in Microsoft Azure?

- a. A geographical area containing all of the Azure datacenters located within a single countries borders.
 - b. A logical boundary defining the secure communication boundary between a customers virtual machines.
 - c. A geographical area containing at least one Azure datacenter per continent worldwide.
 - d. A set of datacenters deployed within a latency-defined perimeter and connected through a dedicated regional low-latency network.
10. Which of the following Azure services is an example of serverless cloud computing?
- a. Virtual Machines
 - b. Azure SQL Server
 - c. Azure Virtual Networks
 - d. Azure Functions
11. You are beginning to extend your on-premises data center into Azure. You have created a new Azure subscription and resource group called RG-One. You deploy two virtual machines into RG-One with the intent of promoting these to Active Directory domain controllers. What kind of cloud service would this be considered?
- a. Platform-as-a-Service (PaaS)
 - b. Infrastructure-as-a-Service (IaaS)
 - c. Hybrid-as-a-Service (HaaS)
 - d. Software-as-a-Service (SaaS)
12. Which of the following statements about Azure availability zones are true?
- a. All Availability Zones are located in different Azure Geographies.
 - b. Availability zones are used to ensure that the VM resources are isolated from each other when they are deployed within an Azure datacenter.
 - c. Azure regions that support Availability Zones have a minimum of three.
 - d. Each availability zone has its own power, cooling, and networking capabilities.

13. You are asked to identify the benefits of using a serverless solution with Azure Functions. Which of the following are benefits of Azure Functions?
- a. Always running.
 - b. No infrastructure to manage.
 - c. No execution timeouts.
 - d. Automatic scalability.
14. What of the following apply to Azure Service Health?
- a. Does not support real-time tracking of incidents.
 - b. Provides the same information as Resource Health.
 - c. Supports both planned and unplanned outages.
 - d. Must be activated for each service.
 - e. Available only for paid Azure support plans.
15. Regarding Azure's premium performance options for storage accounts, what are key limitations that must be considered when choosing one?
- a. Premium performance options do not support all redundancy types.
 - b. Premium performance options are limited to a specific storage type.
 - c. Premium performance options are only available in a small number of Azure regions.
 - d. Premium performance options cost more than the standard general-purpose v2 performance type.
16. You need to choose a performance option for an Azure storage account. This storage account will provide cloud-hosted file server functionality for a high performing Linux application that requires NFS file shares. Which performance option should you choose?
- a. Premium Page Blobs
 - b. Premium Block Blobs
 - c. Premium File Shares
 - d. General-Purpose v2

17. What are the main components of an Azure VPN Gateway setup?
- a. A secure connection, called a tunnel, which encrypts the traffic sent through it.
 - b. An Azure Load Balancer to distribute the traffic between on-premises and Azure correctly.
 - c. A static backend pool of VMs that can be targeted as traffic builds up.
 - d. The VPN Gateway must be attached to an Azure Virtual Network.
 - e. An Azure Storage account for storing any requests that can't be delivered immediately.
 - f. An on-premises network with a complimentary gateway that can accept the encrypted data.
18. Azure virtual machines can be moved between which of the following Azure resources?
- a. Regions
 - b. Subscriptions
 - c. Availability Sets
 - d. Resource Groups
 - e. Availability Zones
19. You are migrating a web-based application from your on-premises data-center to Microsoft Azure. The web application is primarily built on a Python Flask web framework. Your CIO has requested the application be migrated to an Azure solution that requires minimal ongoing maintenance. What type of cloud solution should you recommend?
- a. Software as a Service (SaaS)
 - b. Platform as a Service (PaaS)
 - c. Infrastructure as a Service (IaaS)
 - d. Hardware as a Service (HaaS)
20. We are working as a cloud architect for a cloud solutions provider. We have an exploratory call with a customer about migrating into the Azure cloud. Currently, the customer's infrastructure is all self-hosted, on-prem-

ises. The customer is interested in possible cost savings on the Azure cloud. What tool can we use to provide the customer with a cost comparison between on-premises and in Azure?

- a. Cost Management tool
- b. TCO calculator
- c. Pricing calculator
- d. Request a quote from Microsoft

21. A cloud architecture consisting of both on-premise and public cloud networks is joined to allow applications to operate across the two. What is this known as?

- a. Hybrid Cloud
- b. Public Cloud
- c. Private Cloud
- d. Stretched Cloud

22. You are looking to build and host your website on Azure without needing to manage the underlying infrastructure. Which type of Cloud service should you choose?

- a. Infrastructure as a Service (IaaS)
- b. Private Cloud
- c. Software as a Service (SaaS)
- d. Platform as a Service (PaaS)

23. You are in the process of migrating your existing on-premises SQL databases to Azure. You will migrate them to Azure SQL databases, as opposed to deploying SQL database servers in Azure. What kind of cloud service would this be considered?

- a. Serverless
- b. Platform-as-a-Service (PaaS)
- c. Software-as-a-Service (SaaS)
- d. Infrastructure-as-a-Service (IaaS)

24. Which of the following services would be considered Software-as-a-Service (SaaS)?
- a. Kubernetes
 - b. Office 365
 - c. Azure Active Directory
 - d. Virtual Machines
25. You have been asked to migrate a Windows-based legacy on-premise application to Azure with the minimal effort possible, which compute service should you choose?
- a. Containers
 - b. Virtual Machines
 - c. Blob Storage
 - d. Serverless
26. Which of the following are characteristic of private clouds?
- a. High scalability
 - b. Improved security
 - c. Limited flexibility
 - d. Lower costs
27. Your company is beginning the process of migrating their existing applications to Azure. A newer, business-critical accounting application authenticates over OAuth 2.0. This application will be migrated to a virtual machine in Azure. You want to reduce administrative effort, costs, and unneeded resources to support this application. How can you authenticate this migrated application to your Azure environment using Azure-native resources?
- a. Configure an Azure VM with Windows Server, and operate as an Active Directory domain controller. Configure the application to authenticate with your VM-hosted AD server.
 - b. Configure the Azure Active Directory Domain Services (AADDS) service to act as a fully managed Active Directory environment.

Give the AADDS instance a unique namespace and configure the application to authenticate with your AADDS instance.

- c. Continue using your on-premises AD server, and synchronize the server with Azure AD over Azure AD Connect. Configure the application to authenticate with your on-premises AD server.
- d. Configure the application to authenticate using Azure AD credentials over single sign-on (SSO).

28. Your company is beginning the process of migrating their existing applications to Azure. A business-critical accounting application requires authentication with the NTLM protocol. This application will be migrated to a virtual machine in Azure. Any authentication solution must integrate into your existing on-premises Active Directory domain. What options are available for hosting this application in Azure while still authenticating with Active Directory?

- a. Configure an Azure VM with Windows Server, and operate as an Active Directory domain controller. Configure the application to authenticate with your VM-hosted AD server.
- b. Configure the Azure Active Directory Domain Services (AADDS) service to act as a fully managed Active Directory environment. Give the AADDS instance a unique namespace and configure the application to authenticate with your AADDS instance.
- c. Continue using your on-premises AD server, and synchronize the server with Azure AD over Azure AD Connect. Configure the application to authenticate with your on-premises AD server.
- d. Configure the application to authenticate using Azure AD credentials over single sign-on (SSO).

29. You have an Azure virtual machine named vm-1 in a subnet named hub-subnet. This VM needs to send data to an Azure storage account. For security purposes, no traffic between the VM and storage account can travel over the public internet. Which Azure solutions are able to help fulfill this requirement?

- a. Application Insights
- b. Azure Arc

- c. Service endpoints
 - d. Private endpoints
30. When choosing between Azure Storage redundancy options, which of the following is true for the geo-zone-redundant storage (GZRS) option?
- a. GZRS provides protection if an entire region becomes unavailable.
 - b. GZRS creates six copies of replicated data in Azure Storage.
 - c. GZRS protects against the failure of an entire zone in the primary region.
 - d. GZRS is the least expensive redundancy option.
31. What are some best practices for granting external guest access to Azure environments?
- a. Enroll the external guest account into Microsoft Defender for Cloud.
 - b. Apply only the necessary RBAC permissions to the external account according to the needed scope of access.
 - c. Apply Conditional Access policies to secure the external account's access to Azure resources.
 - d. Grant administrative permissions to the external account.
32. You are creating a new storage account that will host Azure Files. You need to choose a redundancy option that is resilient to a zone becoming unavailable with no impact on service. You wish to save costs where possible. Which redundancy option should you choose?
- a. Zone-redundant storage (ZRS)
 - b. Geo-redundant storage (GRS)
 - c. Geo-zone-redundant storage (GZRS)
 - d. Locally redundant storage (LRS)
33. What is the name of the Azure component that is responsible for all interactions with Azure, including the Azure portal, programmatic access, and command-line interaction?

- a. Azure Resource Manager
 - b. ARM templates
 - c. Azure Central Interface
 - d. Cloud Shell
34. You realize that there have been several attempts to compromise user credentials for your Azure account using brute force. What is an Azure service that can warn you about this?
- a. Azure Monitor
 - b. Azure Information Protection
 - c. Azure Defender for Identity (previously Advanced Threat Protection)
 - d. Azure Key Vault
35. What type of service model is the Azure Cosmos DB service?
- a. On-premises application
 - b. PaaS (platform as a service)
 - c. IaaS (infrastructure as a service)
 - d. SaaS (software as a service)
36. When choosing between Azure Storage redundancy options, which of the following is true for the zone-redundant storage (ZRS) option?
- a. ZRS is the least expensive redundancy option.
 - b. ZRS provides protection if an entire region becomes unavailable.
 - c. ZRS protects against the failure of an entire zone in a region.
 - d. ZRS creates six copies of replicated data in Azure Storage.
37. What is a preferred method of inviting an external user as a collaborator in your Azure AD environment?
- a. Enable scoped views of your tenant that are accessible to approved external users.
 - b. Invite their existing account as an external guest user.

- c. Azure AD does not allow for external users. All users must belong to the primary tenant organization.
 - d. Create a separate organization account for the external user.
38. Your company office is connected to an Azure virtual network named hub-vnet over a VPN connection. Your company maintains an Azure storage account that contains sensitive customer information. For security purposes, you need to disable public exposure of the storage account. You must also enable private access to the storage account from your company office. What should you do?
- a. Implement Azure Arc to establish a private connection to the storage account. Disable public access to the storage account.
 - b. Implement a private endpoint in hub-vnet that connects to the storage account. Disable public access to the storage account.
 - c. It is not possible to create private connections to PaaS services. By their very nature, PaaS services must always have a public endpoint.
 - d. Implement a service endpoint in hub-vnet that connects to the storage account. Disable public access to the storage account.
39. With any Azure Storage redundancy option, data is always replicated in the primary region. How many copies of the data are created by Azure?
- a. Three
 - b. One
 - c. Two
 - d. Zero
40. What is the name of the Azure feature that allows you to sign in to third-party applications using your Azure AD credentials?
- a. Azure Policy
 - b. Azure AD Connect

- c. Single Sign On (SSO)
 - d. Conditional Access policy
41. You need to periodically move small amounts of blob storage data into Azure Storage. You need to use a command-line utility for these transfers that can be incorporated into scripts. Which tool should you use?
- a. Azure File Sync
 - b. AzCopy
 - c. Azure Data Box
 - d. Azure Storage Explorer
42. What is the easiest way to quickly determine your security posture on Azure?
- a. Read the secure score in Microsoft Defender for Cloud.
 - b. Set up an Azure Firewall and monitor how many malicious requests are stopped.
 - c. Use the security coverage calculator in the Azure Portal to estimate the coverage of your security policies.
 - d. Create a new virtual machine and observe the initial security concerns as noted by Microsoft Defender for Cloud.
43. You are creating a new storage account for relatively non-critical business data that does not need high availability. You need to choose a redundancy option that will cost the least. Which redundancy option should you choose?
- a. Geo-redundant storage (GRS)
 - b. Locally redundant storage (LRS)
 - c. Zone-redundant storage (ZRS)
 - d. Geo-zone-redundant storage (GZRS)

44. Your subscription contains multiple resource groups used for a variety of projects. You need to restrict the creation of storage accounts, regardless of end-user access in one of your resource groups. How can you do this?
- a. Azure Sentinel
 - b. ARM templates
 - c. Resource lock
 - d. Create an Azure Policy to restrict the creation of storage accounts in the affected resource group.

Answers with Explanation

EXAM 1 - ANSWERS

1. Which of the following statements are true about vertical scaling?
 - a. Vertical scaling requires downtime to increase compute capacity.
Changing the amount of CPU/RAM in an existing virtual machine requires downtime to make the change.
 - b. **Vertical scaling increases the compute capacity of an existing resource, usually by adding more CPUs or RAM to an existing VM.**
This is also known as scaling up, where the compute capacity of an existing resource is changed, such as adding more CPUs/RAM to an existing VM.
2. Choose 2 command-line tools that can be used to interact with Azure resources using the Azure CLI.
 - a. **Bash**
You can use the Azure CLI with Bash to work with Azure in a command-line format.
 - c. **PowerShell**
You can use the Azure CLI with PowerShell to work with Azure in a command-line format.
3. Your company has several internal departments. Each department is responsible for purchasing its own IT equipment and services. The company plans to implement an Azure environment. You need to ensure that each department can use a different payment option for the Azure services it consumes. What should you create for each department?

a. Subscription

CORRECT (Subscription) - A subscription is an agreement with Microsoft to use one or more Microsoft cloud platforms or services, for which charges accrue based on either a per-user license fee or on cloud-based resource consumption. Microsoft's Software as a Service (SaaS)-based cloud offerings (Office 365, Intune/EMS, and Dynamics 365) charge per-user license fees. Microsoft's Platform as a Service (PaaS) and Infrastructure as a Service (IaaS) cloud offerings (Azure) charge based on cloud resource consumption. Payment options can only be specified per Azure subscription. A reservation can be used to save costs on Azure resources. Azure resources, such as virtual machines, can be reserved in one-year or three-year terms, resulting in significant cost savings. However, Azure reservations are not used to manage billing for Azure services. If your organization has many subscriptions, you may need a way to efficiently manage access, policies, and compliance for those subscriptions. Azure management groups provide a level of scope above subscriptions. You organize subscriptions into containers called "management groups" and apply your governance conditions to the management groups. Billing is not managed via an Azure management group. There is no such thing as an Azure payment plan.. [Subscriptions, licenses, accounts, and tenants for Microsoft's cloud offerings | Microsoft Docs](#)

4. Which of the below capabilities are enabled by Azure Arc?

a. Protect Amazon EC2 instances with Microsoft Defender for Cloud.

Azure Arc can extend the features and monitoring of Microsoft Defender for Cloud to non-Azure resources.

c. Enable running Azure serverless services (e.g., Azure Functions) in containerized form on on-premises servers.

Azure Arc can run some Azure serverless services on local/on-premises servers.

d. Apply role-based access control (RBAC) policies on non-Azure servers.

Azure Arc can extend Azure RBAC controls to non-Azure resources.

5. Which cloud attribute is defined by knowing your application will perform as expected regardless of customer demand?

b. Predictability

Predictability is knowing that your application will perform at a consistent level. This is achieved through a combination of auto-scaling, high availability, and load balancing. Though not noted in the question, it also describes transparency in costs.

6. Which of the following is true in relation to Azure Management Groups?

c. Management Groups allow you to apply policies with flexible hierarchies to multiple subscriptions.

CORRECT (Management Groups allow you to apply policies with flexible hierarchies to multiple subscriptions.) - Azure management groups provide a level of scope above subscriptions. You organize subscriptions into containers called management groups and apply your governance conditions to the management groups. For example, you can apply policies to a management group that limits the regions available for virtual machine (VM) creation. [Organize your resources with management groups - Azure Governance | Microsoft Docs](#)

7. You have a requirement to select the optimal Azure service for storing large amounts of directly-accessible data, including image files, videos, and backup files. Which service should you choose?

c. Blob storage in a storage account

Blob storage is the preferred storage account method for unstructured data that can be directly accessed, such as video files, images, backup files, and much more.

8. You've been given the task of creating a company-owned Azure network infrastructure that establishes a secure, private connection to all resources in those networks using only Azure's private network backbone. Your Azure resources are located in 2 different regions. What Azure services should you use to accomplish this task?

- a. **Create a virtual network in each region, and connect both networks with network peering.**

Network peering allows you to connect multiple virtual networks over the private Azure network for a private network connection.

- 9. As part of your company's Azure migration, you plan on hosting an internal application with App Service. Your CFO needs an estimate of the monthly costs of running the application. Which Azure service should you use to create a monthly cost estimate?

- c. **Pricing calculator**

The pricing calculator can create accurate estimates of hourly or monthly Azure costs across the entire Azure portfolio.

- 10. Your company is beginning their migration of on-premises servers to Azure. You need to plan the migration of several VMs and their hosted applications to Azure. This also requires discovering app dependencies on other servers necessary for continuation of service. Which Azure service is best able to help with this migration process?

- d. **Azure Migrate**

Azure Migrate is a full cloud migration and modernization platform. One of its features is the ability to discover dependencies of resources being migrated to Azure.

- 11. Your company is planning to create a large, complex application using multiple types of microservices that will be deployed on Azure. You need to choose an Azure service that can orchestrate multiple containerized microservices with minimal management overhead. Which Azure service should you choose?

- a. **Azure Kubernetes Service (AKS)**

Kubernetes uses containers, which fulfills the requirement to bundle an application with its dependencies and ensure portability. Compared to Azure Container Instances, which are more suitable for running single containers on demand, AKS is more suitable for large-scale orchestration of multiple containers interacting with each other.

12. Which of the following are characteristic of public clouds?

c. Lower costs

CORRECT (Lower Costs) - Unlike private cloud deployments, public cloud deployments do not require paying for hardware and services that remain idle for long periods of time. This results in lower costs. Resources are shared with others, so control and security are not as good as those in a private cloud.

a. High scalability

CORRECT (High Scalability) - Private clouds still afford the scalability and efficiency of a public cloud. Resources are purchased and available to meet your business needs.

13. What type of cloud architecture is Microsoft Azure generally best described as?

a. Public Cloud

CORRECT (Public Cloud) - Microsoft Azure is best described as a Public Cloud provider, since nearly anybody can provision services on Microsoft Azure, if they have an account on the platform. This is the same as other major public cloud providers, like AWS and Google Cloud Platform. [Public Cloud - Definition | Microsoft Azure](#)

14. Your company is spread across five offices and multiple departments, all of which use various Azure services. You need a consistent method to track which office and department is using which resources when it comes to cost tracking. What is the preferred method of labeling various Azure resources to track who is using what?

d. Tags

Tags are labels that can be attached to any Azure resource, whether they are individual services or even resource groups.

15. You have a business-critical database server running on an Azure VM. Because this server is business critical, you need to automatically notify your SRE team whenever CPU utilization rises above 90% for over 5 minutes. Which Azure service or feature is able to fulfill this requirement?

c. Azure Monitoring alerts

Azure Monitoring alerts monitor conditions (such as an unresponsive application/VM) that can then automatically notify relevant personnel to take action on the issue.

16. Which of the following components are required for Azure Monitor alerts?

b. Alert Rule

The alert rule provides the conditions that must be met before triggering an alert.

d. Action Group

After an alert is triggered via an alert rule, the action group designates who is informed of the triggered alert.

17. You have an on-premises application that processes incoming queue messages and records the data to a log file. You migrate this application to an Azure function app. Which cloud service model would your application then be considered after this migration?

a. Serverless

CORRECT (Serverless) - Serverless computing is the abstraction of servers, infrastructure, and operating systems. When you build serverless apps, you don't need to provision and manage any servers, so you don't have to worry about infrastructure. Serverless computing is driven by the reaction to events and triggers happening in near-real time in the cloud.

18. Which of the following operating systems can have Azure CLI and Azure PowerShell installed? Choose all that apply.

a. macOS

Azure CLI and Azure PowerShell are cross-platform command-line tools that can be installed on macOS. Azure Documentation: [Azure CLI vs Azure PowerShell](#).

b. Windows

Azure CLI and Azure PowerShell are cross-platform command-line tools that can be installed on Windows. Azure Documentation: [Azure CLI vs Azure PowerShell](#).

c. Linux

Azure CLI and Azure PowerShell are cross-platform command-line tools that can be installed on Linux. Azure Documentation: [Azure CLI vs Azure PowerShell](#).

19. You need to select an Azure service that can connect multiple systems, including automating data flow between systems. You do not have a developer background and need to choose a no-code solution. What should you choose?

b. Azure Logic Apps

Azure Logic Apps provides no-code solutions for connecting and automating workflows between different services and applications.

20. You are using Azure Blob Storage for long-term storage of security video footage to meet compliance requirements. Video files are accessed infrequently, yet must be readily available when needed. How should you meet these requirements with minimal cost?

a. Store video files using the Cool storage tier.

The Cool storage tier is ideal for infrequently access files at a lower cost; however, the files are still readily available unlike the Archive tier.

21. What is the preferred method to run Azure serverless services, like Logic Apps, on your on-premises servers?

a. Enable Azure Arc on your on-premises servers.

Azure Arc enables Azure serverless services (like Logic Apps) to run on non-Azure servers as a containerized workload.

22. You currently have two Azure Pay-As-You-Go subscriptions. You would like to combine these into a single subscription. How can you accomplish this?

d. Contact Microsoft Azure Support

CORRECT (Contact Microsoft Azure Support) - The only way to combine Azure subscriptions is to open a support case with Microsoft. There is no such feature in the Azure Portal to combine

Azure subscriptions. There is no such CLI command to merge subscriptions. There is no such PowerShell cmdlet either. Subscriptions, licenses, accounts, and tenants for Microsoft's cloud offerings | Microsoft Doc

23. Which of the following can support serverless cloud?

b. App Service

App Service is a Platform as a Service (PaaS) option that supports serverless application environments.

c. Azure Logic Apps

Along with Azure Functions, Azure Logic Apps is one of the more well-known serverless cloud services on Azure.

24. Select the cloud concept that is defined by: - Knowing that your application will perform as expected, even under heavy load.

b. Predictability

Predictability is knowing that your application will always perform as expected regardless of load. While there is some overlap with the concepts of scalability and high availability to achieve this outcome, the concept of being confident of consistent performance is Predictability.

25. Select which Azure service you should choose to run an application with the following requirements: - All software dependencies are bundled with the application source code - Bundled application is portable - Provision and run compute only when needed to save costs - Minimal management overhead

b. Azure Container Instances

Containers fulfill the requirement to bundle an application with its dependencies and ensure portability. Azure Container Instances allows you to only run your container when needed and have lower management overhead compared to a fully orchestrated Azure Kubernetes Service option.

26. Your corporate office hosts data for office users on an on-premises file server. You want to automatically synchronize the file server's data with Azure Files for backup/disaster recovery purposes. You also wish to en-

able remote users to operate from a synchronized copy of mapped drives in Azure Files in the future. Which tool would you recommend for this task?

b. Azure File Sync

Azure File Sync automatically synchronizes on-premises file servers with Azure Files.

27. Which cloud attribute describes how you manage and interact with cloud resources?

a. Manageability

Manageability has two aspects: 1. How you create and manage resources, which includes autoscaling, template-based deployments, and monitoring/alerts. 2. How you interact with your cloud environments, including via a web portal, command line, and programmatic APIs.

28. What is the concept in which you layer multiple stages of security such as physical security, network security, etc., to create a robust defense against cybersecurity threats?

d. Defense in depth

Defense in depth is the concept in which by layering different security measures, protection against security threats is greatly increased.

29. Which cloud attribute is defined as being able to create and enforce standardized environments, usually to meet corporate or government requirements?

d. Governance

Governance describes enforcing standards via templates and policies that dictate what can and cannot be created. It also includes the ability to audit cloud environments to alert if any resources are out of compliance.

30. Your company is beginning their migration of on-premises storage data to Azure. Your existing file server has over 60 TB of data, which is too much to transfer over an internet connection to an Azure Storage account. You

want to send an initial bulk offline data transfer, which can be followed up by later transfers over the internet once the first bulk upload is complete. Which tool would you recommend to accomplish this task?

a. Azure Data Box

Azure Data Box is an encrypted hard drive intended for offline bulk data transfers.

31. Your company, A Llama Guru, has increased its usage of Azure services over time. They are now using multiple subscriptions across various sectors of the company for a wide range of projects. As the number of subscriptions has increased, managing access and permissions across your numerous subscriptions has become quite cumbersome. What would you recommend to easily manage multiple subscriptions from a single source?

a. Management groups

Management groups are an Azure resource management scope that sit above individual subscriptions. They are in fact a grouping, or collection of multiple subscriptions. Permissions, policies, and compliance settings applied to a management group are automatically inherited by all subscriptions inside of that group.

32. Which cloud attribute is defined by knowing what your cloud resources are going to cost as well as the ability to predict future costs through current trends?

b. Predictability

Predictability is knowing what your application will cost with real-time tracking of resource usage. It also allows forecasting future costs based on current usage. Though not noted in the question, predictability also describes knowing that your application will perform consistently regardless of customer load.

33. You are the systems administrator for Highlander Cutlery, Inc. Your company has an on-premises network that contains multiple servers. As part of a headcount reduction, the company plans to reduce the following administrative responsibilities of network administrators. Backing up application data. Replacing failed server hardware. Managing physical server security. Updating server operating systems. Managing permissions to shared documents. The company plans to migrate several servers to Azure

virtual machines. Which administrative responsibilities will be reduced after the planned migration?

b. Managing physical server security

CORRECT (Managing physical security) - One advantage of the IaaS cloud model is that a cloud service provider will manage physical security of the server infrastructure as part of the Shared Responsibility Model.

e. Replacing failed server hardware

CORRECT (Managing physical security) - Within the Shared Responsibility Model of public cloud deployments, it is the responsibility of the cloud provider to replace failed server hardware.

34. Your company plans to move several servers to Azure. The company's compliance policy states a server named HRServer1 must be in a separate physical location from all other servers. Which Azure services can be used to meet the compliance policy requirements?

a. One Azure region for HRServer1 and another Azure region for all other servers

CORRECT (One Azure region for HRServer1 and another Azure region for all other servers) - The correct answer is to have one Azure region for server HRServer1 and another Azure region for all other servers. An Azure region is a set of data centers deployed in a specific geographic location. By placing HRServer1 in a different Azure region to other servers, you have ensured it resides in a separate physical location from all your other servers. The other answers are incorrect as they will not ensure HRServer1 is in a separate physical location. A resource group is simply a logical construct that groups multiple resources together so they can be managed as a single entity. Resources from different resource groups can reside in the same location. Having HRServer1 reside in a separate subnet or virtual network does not ensure it is in a separate physical location - again these are logical constructs that span the same region/physical location. [Azure Regions | Microsoft Azure](#)

35. Which cloud attribute is defined by maintaining full control of the security of your cloud resources, including patch management and network control?

a. Security

Like its name implies, the security cloud attribute describes having full control, or even choosing how much control you want, over your cloud resources' security configuration.

36. What is the purpose of Application Insights?

a. Provides insights such as customer behavior, performance bottlenecks, and web application errors

Application Insights provides website performance monitoring.

37. Which Azure tool allows you to view which user turned off a specific virtual machine during the last 14 days?

a. Azure Activity Log

The correct answer is the Azure Activity Log - it is a logging service that provides insight into subscription-level events that have occurred in Azure. This includes a range of data, from Azure Resource Manager operational data to updates on Service Health events. Events such as starting and stopping of virtual machines can be found here. [Overview of Azure platform logs - Azure Monitor | Microsoft Docs](#)

38. You are using Azure Blob Storage for long-term storage of server logs to meet compliance requirements. These files will be accessed, at most, once per year (if ever) and do not need to be immediately accessible. How should you meet these requirements with minimal cost?

b. Store the server logs using the Archive storage tier.

The Archive storage tier does meet the requirement to store files at a lower cost. The Archive tier also has a “rehydration” time before the files are accessible; however, that is acceptable in this scenario. This is the preferred option.

39. What is the purpose of Azure Monitoring alerts?

c. Proactive notifications to relevant personnel when there is a problem with your infrastructure or application.

Azure Monitoring alerts notify support personnel when there is an unexpected problem with your Azure environment, allowing a timely resolution.

40. Your corporation relies on compute services hosted on-premises, on Azure, and on AWS. You recently deployed Microsoft Defender for Cloud to your Azure resources and have been very pleased with the result. You would like to implement the “single pane of glass” functionality of Defender for Cloud for your AWS and on-premises resources. What is a required prerequisite to achieve this?

b. AWS and on-premises resources must first have Azure Arc enabled.

Azure Arc is the standard method of integrating non-Azure resources with Azure management tools and is a prerequisite to integrate external locations with Microsoft Defender for Cloud. Please note that Azure Arc integration was not a prerequisite in the older version of Azure Security Center (now Defender for Cloud), but it is now a prerequisite.

41. You need to choose a performance option for an Azure storage account. This storage account will host disks for VMs, and requires the fastest possible performance. Which performance option should you choose?

d. Premium Page Blobs

Premium page blobs support the fastest possible performance for page blob storage types (e.g., IaaS disks).

42. You are deploying an application to Azure, hosted on virtual machines. You need to increase the reliability of this application, ensuring it is still available even if there is a datacenter outage. What should you do to ensure reliable operation of your application in case of a disaster?

c. Deploy virtual machines to host the application in another zone

Zones within a region are separate locations or datacenters in the same geographical area. Deploying additional machines to another zone will increase the reliability of the solution in case one of the datacenters is unavailable.

43. What are the components of a Conditional Access policy?

a. Access Decisions

Once the signal condition of a policy is met, an access decision is applied such as grant, block, or grant with restrictions (requires MFA/managed device).

c. Signals

Signals are the conditions that must be met to trigger a Conditional Access policy. They include the affected users/groups, applications being signed into, locations, and more.

44. Your website has recently been experiencing a higher number of errors in addition to performing below expectations. Which Azure tool is recommended to troubleshoot errors and performance bottlenecks?

c. Application Insights

Application Insights provides valuable data on web-based applications, such as performance, customer usage, error reporting, and more.

EXAM 2 - ANSWERS

1. Your company is beginning the process of migrating its existing applications to Azure. A business-critical accounting application requires authentication with the NTLM protocol. This application will be migrated to a virtual machine in Azure. You intend to eventually retire all on-premises resources and be 100% hosted in the cloud. You need to use your existing Active Directory (AD) domain/namespace in a cloud-hosted solution. What options are available for hosting this application in Azure while still being able to authenticate with Active Directory?

- c. **Configure an Azure VM with Windows Server and operate as an Active Directory domain controller. Configure the application to authenticate with your VM-hosted AD server.**

This is referred to as self-managed AD, where you are in charge of configuring and maintaining a Windows Server acting as a domain controller. Self-managed AD on an Azure VM can use an existing domain namespace.

2. You need to choose a performance option for an Azure storage account. This storage account will host multiple storage formats, and will need to keep costs low, while maintaining an acceptable level of performance. Which performance option should you choose?

- a. **General-Purpose v2**

General-purpose v2 is the standard performance option which supports all storage types. It provides an acceptable level of performance for most workloads; however, does not include high performance low-latency operations. It also costs less than the premium performance options.

3. Which of the following statements are true for IaaS cloud services?

- a. **The client is responsible for all guest VM OS and application updates.**

CORRECT (Client is responsible for all guest VM OS and application updates) - Client must perform all guest OS and application updates. Operating System (OS) licensing is included in the

per-use cost of the service. Reference: [What is IaaS? Infrastructure as a Service | Microsoft Azure](#)

c. Services can be scaled automatically to support system load.

CORRECT (Services can be scaled automatically to support system load.) - IaaS host services often feature the ability to scale automatically to combat increased system load and scaled back during periods of inactivity. [What is IaaS? Infrastructure as a Service | Microsoft Azure](#)

4. You are deploying an application to Azure Virtual Machines. You want to ensure that the application will remain available in the event of a hardware failure or an OS update. What Azure concept will help most in this task?

a. Availability set

An Availability set consists of 2 or more virtual machines in the same physical location within an Azure datacenter. This configuration ensures that only a subset of the virtual machines in an availability set will be affected in the event of hardware failure, OS update, or a complete data center outage; whereas, availability zones protect applications from complete Azure datacenter failures, which was not a requirement in this scenario.

5. Your company is migrating several types of existing on-premises resources to Azure. You need to migrate the functionality of your existing on-premises file server to Azure, which will act as a mapped drive location for multiple office desktops. This solution needs to use the Server Message Block (SMB) shares for file storage and management. What solution should you use?

d. Azure Files

Azure Files uses SMB shares within a storage account to act as a cloud-based network file server.

6. You are migrating your on-premises Microsoft Exchange email system to Office 365. What kind of cloud service would this be considered?

a. Software-as-a-Service (SaaS)

CORRECT (Software-as-a-Service (SaaS)) - Software as a service (SaaS) allows users to connect to and use cloud-based apps

over the Internet. Common examples are email, calendaring, and office tools (such as Microsoft Office 365). Reference: [What is SaaS? Software as a Service | Microsoft Azure](#)

7. You need to prevent any modifications to the configuration of a critical VM in an Azure resource group such as changing the VM size. You also need to prevent any accidental deletion of the VM. What should you use to accomplish this task?

d. Apply a read-only lock on the VM.

A read-only lock prevents both deletion AND modification of our locked resource.

8. Choose all components that are required to create a secure IPsec tunnel over the public internet from an Azure virtual network to an on-premises location.

a. Virtual network gateway

This scenario calls for a VPN connection over a virtual network gateway. A gateway component is one of the components needed to create this connection. Azure Documentation: [To configure the virtual network gateway](#).

b. VPN device

This scenario calls for a VPN connection over a virtual network gateway. Site-to-Site connections to an on-premises network require a VPN device. Azure Documentation: [Configure your VPN device](#).

d. Gateway subnet

This scenario calls for a VPN connection over a virtual network gateway. A gateway requires its own gateway subnet on an Azure virtual network. Azure Documentation: [To configure the virtual network gateway](#).

9. You manage a large number of VMs in Azure, all of which are configured to log CPU performance metrics. You want to view a historical analysis of CPU utilization over time in order to find trends. How should you accomplish this?

- d. **Send the CPU utilization metrics to a Log Analytics workspace. Within Log Analytics, run a query on the metrics to view trends over time.**

Log Analytics acts as both a storage container for logs/metrics as well as a query service to analyze the same logs/metrics data.

10. What describes the cloud attribute of predictability?

- d. **Knowing what your application will cost with real-time tracking of resource usage as well as knowing that your application will perform consistently regardless of customer load**

Predictability of performance is achieved with features such as autoscaling and load balancing. Predictability of performance is achieved with real-time tracking of resource usage/costs as well as predicting future costs based on current resource usage.

11. Your Azure subscriptions uses a number of different services spread across multiple resource groups. You need an all-in-one view of the current and predicted costs of your resources. Which tool would you use to find this information?

- a. **Cost Management**

Cost Management monitors and analyzes the cost of your current Azure resources.

12. What is the purpose of Azure Conditional Access Policies?

- c. **Enforce conditions to grant or deny access to Azure AD resources in addition to username/password authentication.**

Conditional Access Policies effectively use a series of if/then statements to either grant, deny, or grant (with conditions) access to an Azure AD resource.

13. What describes the cloud attribute of management?

- c. **How you interact with and implement different cloud-based resources**

Manageability has two aspects: 1. How you create and manage resources, which includes autoscaling, template-based deployments, and monitoring/alerts. 2. How you interact with your cloud

environments, including via the web portal, command line, and programmatic APIs.

14. What is the security model that assumes all users are untrustworthy until they prove otherwise with a valid identity?

d. Zero Trust

Zero Trust is the security model that assumes all users are untrustworthy until proven otherwise, regardless of location.

15. What is the name of the query language that Log Analytics uses?

d. KQL

Kusto Query Language (KQL) is the query language used by Log Analytics.

16. What is the purpose of the Service Trust Portal?

c. Provides customers with Azure's compliance documentation

The Service Trust Portal contains details about Microsoft's implementation of controls and processes that protect Microsoft's cloud services and the customers that use it.

17. What describes the cloud attribute of security?

d. Having full control, or even choosing how much control you want, over your cloud resources' security configuration

If you want maximum control of security, Infrastructure as a Service provides you with physical resources but lets you manage the operating systems and installed software, including patches and maintenance. If you want patches and maintenance taken care of automatically, Platform-as-a-Service or Software-as-a-Service deployments may be the best cloud strategies for you.

18. What is the purpose of Azure Arc?

b. Extends Azure's control plane, allowing you to manage non-Azure resources as if they were in Azure

Azure Arc extends Azure's management and governance abilities to non-Azure computing sources allowing Azure management regardless of where your compute is hosted.

19. What do you use to make sure that users of your application are who they say they are?

d. Authentication

CORRECT (Authentication) - Authentication is confirming users are who they say they are. [Authentication vs. authorization - Microsoft identity platform](#) | [Microsoft Docs Authentication and authorization - Azure App Service](#) | [Microsoft Docs](#)

20. What tool provides cost information and would help to identify underutilized and idle Azure resources in order to help reduce overall spending?

d. Azure Advisor

CORRECT (Azure Advisor) - Advisor helps you optimize and reduce your overall Azure spending by identifying idle and underutilized resources. [Reduce service costs using Azure Advisor](#) - [Azure Advisor](#) | [Microsoft Docs](#)

21. What is the necessary process for creating a hosted Azure Files storage service on Azure for Server Message Block (SMB) file storage?

a. Create a storage account. Then, create an Azure Files share on the storage account.

Azure Files are hosted inside of a storage account.

22. From where can you launch Azure Cloud Shell?

a. Azure portal

Cloud Shell is launched from the Azure portal. Inside Cloud Shell, you have access to both Bash and PowerShell environments.

23. Which of the following statements are true regarding the differences between Private Endpoints and Service Endpoints?

a. Service Endpoints only provide private PaaS connectivity to a subnet in a virtual network. Private Endpoints extend private PaaS connectivity to connected networks, including on-premises.

Service Endpoints only work with Azure Virtual Networks at a subnet-level scope. It does not extend to non-Azure networks.

- b. Private Endpoints allow you to completely disable public access to a managed PaaS service.**

Private Endpoints allow private access from connected non-Azure locations, therefore allowing full removal of public PaaS access and still allowing on-premises connectivity.

24. You are designing a hybrid network in which your Azure virtual network will need to establish a secure and private connection to your on-premises network via a high-speed leased line that directly connects to Azure. This connection cannot traverse the public internet. Which Azure service should you use to accomplish this task?

- a. Azure ExpressRoute**

Azure ExpressRoute fulfills the requirement to establish a private connection from on-premises to Azure, and it does so by leasing a dedicated line to an Azure datacenter and does not use the public internet.

25. You have a virtual machine that is highly sensitive and requires complete isolation from any other virtual machines. What is the best service to use to achieve this requirement?

- d. Virtual network**

CORRECT (Virtual network) - To completely isolate the virtual machine you would use a separate Virtual Network. Although it is possible to achieve this via routing tables and separate subnets in the same VNet, a separate VNet ensures complete isolation. [Azure Virtual Network | Microsoft Docs](#)

26. How many tenants can a user in Azure Active Directory belong to?

- b. 500**

CORRECT (500) - A single user can belong to a maximum of 500 Azure AD tenants as a member or a guest. [Azure AD service limits and restrictions | Microsoft Docs](#)

27. You are designing an Azure infrastructure solution for your company's application. This solution must continue to function if a single datacenter goes offline. For compliance reasons, your infrastructure and data must

reside in the same general location. How should you design this infrastructure?

d. Within a single region, replicate your infrastructure across multiple availability zones in that region.

Availability zones provide a level of fault tolerance within a single region (or general location). Each availability zone is a self-contained datacenter. By replicating resources across multiple availability zones, if 1 zone (or datacenter) goes offline, the other availability zones in the same region can continue to host your application.

28. Name the Azure organizational component that associates a billing account with your Azure environment.

b. Subscription

An Azure subscription is associated with a billing account, and it acts as your billing boundary in your Azure environment.

29. Your company, Llamas-R-Us, currently owns a datacenter with 150 servers for various operations. Periodically, additional compute capacity is required beyond what your datacenter can support. Your CTO has requested a solution that will quickly and temporarily provide additional compute capacity when it is needed. Any solution must minimize costs and administrative effort. What should you recommend?

b. Implement a hybrid cloud solution

A hybrid cloud utilizes an existing on-premises network (or datacenter) and connects it to a public cloud environment. This allows you to retain your existing datacenter infrastructure, while at the same time supplementing your compute capacity with cloud offerings when needed.

30. Your company hosts VM servers in both Azure and AWS. Each cloud server uses its own management tools. In an effort to reduce administrative overhead, your CIO is requesting information on Azure-native services to manage policies on servers in both locations in the same place. Ideally, they want to apply the same Azure RBAC policies and automation routines on both Azure and AWS servers. How can you accomplish this request?

c. Implement Azure Arc to manage and govern AWS servers within Azure.

Azure Arc extends the Azure control plane to non-Azure compute resources, such as AWS and on-premises.

31. Which cloud concept describes the ability of a cloud service to be accessed quickly from any location via the internet?

a. Low latency

Low latency is the ability of a cloud service to be accessed quickly from any location via the internet. Azure Documentation: [Azure networking services overview](#)

32. You are designing a hybrid network in which your Azure virtual network will need to establish a secure and private connection to your on-premises network via an IPsec tunnel over the public internet. Which Azure service should you use to accomplish this task?

b. Azure VPN Gateway

Azure VPN Gateway allows you to establish an IPsec tunnel from an on-premises network to an Azure virtual network over the public internet.

33. Microsoft Office 365 is an example of which cloud deployment model?

d. SaaS

CORRECT (SaaS) - Software as a service (SaaS) allows users to connect to and use cloud-based apps over the internet. Common examples are email, calendar, and office tools, such as Microsoft Office 365. [What is SaaS? Software as a Service | Microsoft Azure](#) [What is PaaS? Platform as a Service | Microsoft Azure](#) [What is IaaS? Infrastructure as a Service | Microsoft Azure](#) [Microsoft Cloud App Security | Microsoft 365](#)

34. As part of your company's Azure migration, your CFO needs a comparison of how much money would be saved by migrating their existing server cluster to Azure VMs. Additionally, migration savings must be calculated from migrating a server-hosted application to App Service. Which Azure tool can help provide cost-saving estimates of before/after migrations?

a. Azure TCO Calculator

The Total Cost of Ownership (TCO) Calculator is used to estimate the cost savings you can realize by migrating your existing workloads to Azure.

35. You need to create a virtual machine with the following disk requirements:
- Hold up to 64TB in a single disk
 - Highest possible performance with sub-millisecond latency
- Which disk type should you select for your virtual machine?

b. Ultra

Ultra disks are the most expensive, yet highest-performing disk types available for Azure virtual machines. They support up to 64TB on a single disk.

36. What describes the cloud attribute of governance?

c. The ability to create and enforce standardized environments, usually to meet corporate or government requirements

Features such as templates help ensure that all your deployed resources meet corporate standards and government regulatory requirements. In addition, you can update all your deployed resources to new standards as standards change. Cloud-based auditing helps flag any resource that is out of compliance with your corporate standards and provides mitigation strategies. Depending on your operating model, software patches and updates may also automatically be applied, which helps with both governance and security.

37. What is the purpose of Azure Blueprints?

c. Automated and repeatable environment setup in Azure.

Azure Blueprints provides automated and repeatable environment setup in Azure. It is able to implement:

- Role assignments
- Policy assignments
- Azure Resource Manager templates (ARM templates)
- Resource groups

38. Which of the following are valid Azure storage redundancy types

a. Locally redundant storage (LRS)

CORRECT (Locally redundant storage (LRS)) - Azure has many redundancy options to choose from when identifying which storage option to select. The following are all valid Azure Storage redundancy options - Locally redundant storage, Zone-redundant storage, Geo-redundant storage, Read-access geo-redundant storage, Geo-zone-redundant storage and Read-access geo-zone-redundant storage. [Data redundancy - Azure Storage | Microsoft Docs](#)

b. Zone redundant storage (ZRS)

CORRECT (Zone redundant storage (ZRS)) - Azure has many redundancy options to choose from when identifying which storage option to select. The following are all valid Azure Storage redundancy options - Locally redundant storage, Zone-redundant storage, Geo-redundant storage, Read-access geo-redundant storage, Geo-zone-redundant storage and Read-access geo-zone-redundant storage. [Data redundancy - Azure Storage | Microsoft Docs](#)

c. Read-access geo-zone-redundant storage (RA-GZRS)

CORRECT (Read-access geo-zone-redundant storage (RA-GZRS)) - Azure has many redundancy options to choose from when identifying which storage option to select. The following are all valid Azure Storage redundancy options - Locally redundant storage, Zone-redundant storage, Geo-redundant storage, Read-access geo-redundant storage, Geo-zone-redundant storage and Read-access geo-zone-redundant storage. [Data redundancy - Azure Storage | Microsoft Docs](#)

39. What are Azure Resource Manager (ARM) templates?

a. Azure's native Infrastructure-as-Code (IaC) solution

ARM templates are Azure's native Infrastructure-as-Code (IaC) solution that can consistently and automatically deploy the same environments that are defined in code format.

40. Your organization repeatedly deploys the same collection of resources across multiple departments. Your technology director wants to know if

there is a quicker, more reliable method for consistently deploying the same resources. Which method would you recommend as the team's first step in automating the repeated deployment of individual resources?

a. Azure Resource Manager (ARM) templates

ARM templates are Azure's native Infrastructure-as-Code (IaC) solution that can consistently and automatically deploy the same environments that are defined in code format.

41. Define the concept of "scalability."

a. The ability of a system to handle increased load

Microsoft's official definition of scalability is: "Scalability is the ability of a system to handle increased load."* Elasticity is the ability to dynamically scale to meet demand. Scaling can be dynamic or manual (such as, often, the case for vertical scaling). Reference: [Design for Scaling](#)

42. What are the advantages of the Zero Trust security model?

a. Limits rogue actors from accessing sensitive resources.

Because it requires establishing trust with identities, as well as restricting access to only what is necessary to perform a job (i.e., principle of least privilege), Zero Trust limits the ability of rogue actors or compromised accounts to do damage.

b. Allows access from any location once identity has been verified.

The Zero Trust security model is necessary for the modern "work from anywhere" workplace, as access can be granted regardless of a user's location.

43. Which of the following statements are true about horizontal scaling?

b. Horizontal scaling adds additional copies of a resource, like a VM or container, to a resource pool.

Horizontal scaling (or scaling out) is defined by creating additional copies of a resource. It allows rapid expansion of compute capacity in a pool of resources with no downtime.

- c. Horizontal scaling can occur automatically with no manual interaction.**

Since horizontal scaling creates copies of resources, adding and subtracting resources in response to demand can occur automatically based on application demand metrics.

- d. Horizontal scaling does not require downtime.**

Since horizontal scaling creates copies of resources, it can be added to without bringing the application down to make changes to compute capacity. By contrast, increasing the number of CPUs/RAM in existing virtual machines requires taking the VM offline to make the change.

44. Which of the following attributes describe public cloud offerings?

- c. Pay-as-you-go pricing**

Public cloud uses a pay-as-you-go pricing model, paying for resources as they are used, not in advance.

EXAM 3 - ANSWERS

1. Which of the following statements about SaaS cloud services is correct?
 - a. **The cloud service provider is responsible for all application upgrades.**

CORRECT (The service provider is responsible for application upgrades) - The cloud service provider performs all underlying hardware, OS, and middleware updates. With data stored in the cloud, users can access their information from any internet-connected computer or mobile device. And when app data is stored in the cloud, no data is lost if a user's computer or device fails.
2. Which of the following are benefits of Azure geographies?
 - b. **They are fault tolerant and can often withstand complete region failure**

CORRECT (Fault tolerant and can withstand complete region failure) - Azure Geographies are groups of one or more Azure Region. Every region already has fault-tolerance (more than one data-center) but most Geographies have more than one Region as well, giving you multiple levels of redundancy. Which Azure region is right for me? | Microsoft Azure
 - c. **Data residency is honored within the geographical boundary**

CORRECT (Data residency honored within geographical boundary) - Azure has geographies around the world providing data residency within each region to give customer peace of mind over their data sovereignty. Which Azure region is right for me? | Microsoft Azure
 - d. **Azure has geographies throughout the world**

CORRECT (Azure has geographies throughout the world) - Azure has geographies in the Americas, Europe, Asia Pacific, the Middle East and Africa. Which Azure region is right for me? | Microsoft Azure

3. You need to create an Azure storage solution that will store messages created by an Azure web role. The messages will then be processed by an Azure worker role. What type of storage solution should you create?

a. A Queue service in a storage account

Azure Queue storage is a service for storing large numbers of messages that can be accessed from anywhere in the world via authenticated calls using HTTP or HTTPS. [What is Azure Queue Storage?](#)

4. What is the purpose of the Cost Management feature in Azure?

c. Monitors and analyzes the cost of your current Azure resources

Cost Management is part of subscription billing tools, which breaks down current cost via a variety of filters and can also set budgets and alerts.

5. You maintain a single virtual machine (VM) as an internal server. This server has two CPUs and 8 GB RAM. You decide to increase the capacity of the same server to four CPUs and 16 GB RAM. Which cloud attribute is this an example of?

a. Vertical scaling

Vertical scaling (or scaling up) is increasing the compute capacity of an existing resource, usually by adding more CPUs or RAM to an existing VM.

6. Which Azure service can host your web apps without you having to manage underlying infrastructure?

d. Azure App Service

CORRECT () - Azure App Service enables you to build and host web apps, mobile back-ends, and RESTful APIs in the programming language of your choice without managing infrastructure. [Azure App Service documentation - Azure App Service | Microsoft Docs](#)

7. You need to implement multi-factor authentication (MFA) for Microsoft Cloud apps across your entire organization. The requirement for MFA needs to be centrally rolled out and enforced. What Azure functionality should you use to accomplish this task?

d. Use a Conditional Access policy to roll out MFA to the entire organization

Conditional Access policies are a component of Azure Active Directory that let you create if-then statements for allowing/denying authentication to different applications, including conditions to require multi-factor authentication. They provide centralized conditional access that can be enforced company-wide.

8. What are region pairs?

b. A region that is linked with another region in the same geography

CORRECT (A region that is linked with another region in the same geography) - Azure has the concept of region pairs, these are two or more regions that are at least 300 miles apart within a single Geography. This enables the ability to replicate certain resources such as virtual machine storage across the geography providing protection against such events as natural disasters or civil unrest. [Ensure business continuity & disaster recovery using Azure Paired Regions | Microsoft Docs](#)

9. You need a service to define and enforce compliance standards in multiple Azure subscriptions. What service or feature should you use?

c. Azure Policy

Azure Policy enforces organizational standards and compliance at scale. Examples include restricting a SKU or size of a virtual machine or defining which types of Azure resources are allowed.

10. Which of the following Azure offerings provide a platform for serverless computing?

a. Azure Functions

CORRECT (Azure Functions) - Azure Functions is a serverless compute service that enables you to run code-on-demand without having to explicitly provision or manage infrastructure. Use Azure Functions to run a script or piece of code in response to a variety of events. [Azure Functions](#)

b. Azure App Service

CORRECT (Azure App Service) - Azure App Service enables you to build and host web apps, mobile back-ends, and RESTful APIs in the programming language of your choice without managing infrastructure. [Azure App Service documentation - Azure App Service | Microsoft Docs](#)

11. Your company uses a single, critical virtual machine that will be in place for years. You want to save costs on long-running virtual machines. What should you do?

b. Use an Azure Reserved Virtual Machine Instance

Azure Reserved Virtual Machine Instances allow you to sign on for a 1- or 3-year commitment for a long-running virtual machine that can save up to 70% compared to month-to-month pricing.

12. What is the preferred method to synchronize user identities on an on-premises Active Directory server with Azure AD?

b. Use Azure AD Connect in your on-premises environment to synchronize on-premises and Azure AD accounts.

Azure AD Connect in an on-premises environment is capable of synchronizing on-premises and Azure AD accounts, so users can be signed in and be managed in both locations without having to maintain 2 separate Active Directory environments.

13. You are migrating an on-premises application to the Azure Cloud. The application communicates with a file share hosted on a Windows server that no other applications have access to. Which Azure storage services could be used to migrate the file share to?

c. Azure Disk Storage

Azure Disk Storage can be used to house the migrated Windows file share data. [Azure Disk Storage | Microsoft Azure](#).

d. Azure Files

Azure Files can be used to house the migrated Windows file share data. [File Storage | Microsoft Azure](#).

14. What kind of information does Azure Information Protection protect?

a. Office documents

CORRECT (Office documents) - Azure Information Protection (sometimes referred to as AIP) helps protect: Email messages, Office documents and PDF documents. AIP is a cloud-based solution that helps an organization classify and, optionally, protect its documents and emails by applying labels. Azure Information Protection is not used to protect data in Azure Blob Storage nor can it help protect virtual hard disks. [What is Azure Information Protection? - AIP | Microsoft Docs](#)

c. Email messages

CORRECT (Email Messages) - Azure Information Protection (sometimes referred to as AIP) helps protect: Email messages, Office documents and PDF documents. AIP is a cloud-based solution that helps an organization classify and, optionally, protect its documents and emails by applying labels. Azure Information Protection is not used to protect data in Azure Blob Storage nor can it help protect virtual hard disks. [What is Azure Information Protection? - AIP | Microsoft Docs](#)

d. PDF documents

CORRECT (PDF Documents) - Azure Information Protection (sometimes referred to as AIP) helps protect: Email messages, Office documents and PDF documents. AIP is a cloud-based solution that helps an organization classify and, optionally, protect its documents and emails by applying labels. Azure Information Protection is not used to protect data in Azure Blob Storage nor can it help protect virtual hard disks. [What is Azure Information Protection? - AIP | Microsoft Docs](#)

15. What types of data does Azure Monitor collect?

a. Subscription monitoring data

Azure Monitor collects two broad types of data: metrics and logs. Within these data types sits subscription monitoring data. [Azure Monitor overview - Azure Monitor | Microsoft Docs](#)

c. Metrics and logs

All data collected by Azure Monitor fits into one of two fundamental types, metrics and logs. Metrics are numerical values that describe some aspect of a system at a particular point in time. They are lightweight and capable of supporting near real-time scenarios. Logs contain different kinds of data organized into records with different sets of properties for each type. Telemetry such as events and traces are stored as logs in addition to performance data so that it can all be combined for analysis. [Monitoring data platform](#).

16. Which Azure service can help you collect, analyze, and act on telemetry from your cloud and on-premises environments?

c. Azure Monitor

CORRECT (Azure Monitor) - Azure Monitor is a service that can help you understand how your applications are performing and proactively identify issues affecting them and the resources they depend on. [Azure Monitor overview - Azure Monitor | Microsoft Docs](#)

17. After enforcing multi-factor authentication via a Conditional Access policy, users are complaining about the extra steps required to log in to their Microsoft 365 accounts. What steps can you take to lessen the inconvenience of this additional authentication step while still maintaining a strong security posture?

b. Implement passwordless authentication. Users will not enter a password at the system login prompt. Instead, they will authenticate using the Microsoft Authenticator app on their smartphones and answer a challenge after verifying ID with a PIN or biometric authorization.

Passwordless authentication bypasses the system's login. In this scenario, users verify identity with something they have like a smartphone, plus something like a PIN or biometrics.

18. From a pricing perspective, select the two statements that are true regarding infrastructure as a service virtual machines (VMs) and serverless resources, such as Azure Functions.

- a. **Virtual machines are billed for the time they are running, whether or not they are in use.**

Virtual machines (IaaS) are billed for compute and storage while they are turned on and running, regardless of whether they are actively in use.

- c. **Serverless resources, such as Azure Functions, are only billed when a function is executed (or run) and no longer billed once the function is no longer active.**

Serverless cloud resources use a pay per consumption model. Billing does not occur when it is not in use.

19. Your organization is planning to migrate your entire datacenter to Azure. You are required to recommend an architected solution that will allow operations to continue if an entire Azure region becomes unavailable. Which cloud attribute should you factor into your solution?

- d. **Reliability**

Reliability describes the ability to continue business operations in the case of an outage or disaster.

20. Which of the following components are required to establish communication between on-premises resources and resources in Azure?

- c. **Azure Virtual Network**

Azure Virtual Network enables many types of Azure resources, such as Azure Virtual Machines (VM), to securely communicate with each other, the internet, and on-premises networks. [Azure Virtual Network | Microsoft Docs](#).

- d. **VPN Gateway**

A VPN Gateway defines the Azure network side of a site-to-site virtual private network. [Azure VPN Gateways](#).

21. You maintain a pool of identical virtual machines that serves an application behind a load balancer. When customer demand increases, you need to add additional copies of the virtual machine to the pool to meet customer demand. What cloud attribute does this demonstrate?

b. Horizontal scaling

Horizontal scaling (or scaling out) is defined by adding additional copies of a resource, like a VM or container, to a resource pool.

22. You are the Systems Administrator for a local university. You are deploying several sets of systems that will be used for research and development teams. Each set of systems will be uniform in nature, containing the same number and type of Azure resources. What should you recommend to automate the creation of these Azure resources?

a. Azure Resource Manager templates

CORRECT (Azure Resource Manager templates) - An Azure Resource Manager template is the framework by which resources are created. They can be used to define and automate the creation of similar resources.

23. You are the system administrator for T-Bones Restaurant Group, Inc. You currently have an on-premises data center that consists of 50 Windows servers running IIS and SQL Server. IT management has dictated that all systems should be moved to Azure in the coming year. They also state that only platform-as-a-service (PaaS) solutions should be implemented. Which of the following meet these requirements?

b. Azure App Service

CORRECT (Azure App Service) - Azure App Service is a platform-as-a-service (PaaS) offering for web services and is a common solution for the migration of IIS.

d. Azure SQL Database

CORRECT (Azure SQL Database) - Azure SQL Database is a platform-as-a-service (PaaS) offering for relational database management and is a common solution for the migration of SQL.

24. You are the Azure Administrator for Radio Gaga, LTD. You have a resource group named RG-RG and need to ensure no other administrators can create virtual networks in this resource group. What can you implement to accomplish this?

a. Azure policy

CORRECT (Azure policy) - Azure Policy is correct as it is used to enforce different rules and effects over your resources, such as limiting what actions different administrators can perform within your RG-RG resource group. The other answers are incorrect: Access Control can be used to prevent the creation of Azure resources, but improper use could prevent required system access from other administrators - this is not the best selection; Locks can be used on a resource to prevent accidental deletion or modification of a resource group - for example; Properties are typically read-only values for an Azure resource, such as its resource ID, subscription, resource group, and other information. [Overview of Azure Policy - Azure Policy | Microsoft Docs](#)

25. While you are at a customer site, you have been asked to quickly create a new development virtual machine for your developers to experiment with new code features. The only computing device you have available is an Apple iPad tablet running iOS. Which methods can you use to create the virtual machine?

c. Use the Azure portal.

The Azure portal is accessible from any web browser, including mobile operating systems. From within the Azure portal, you can use the web interface to create a VM, or you can use Cloud Shell within the portal to create the resources via the command line.

26. You need to reference how Microsoft secures their cloud infrastructure to meet strict compliance controls. What do you need to reference for this information?

c. Service Trust Portal

The Service Trust Portal contains details about Microsoft's implementation of controls and processes that protect Microsoft's cloud services and the customers that use it.

27. Which statement best describes a Hybrid Cloud architecture?

a. Utilizes services of both Public and Private Clouds

CORRECT (Utilizes services of both Public and Private Clouds) -

A Hybrid Cloud architecture describes a solution that utilizes both Public and Private Cloud offerings, including private on-premise systems. This is useful, because it allows companies the flexibility of the cloud, but can also manage tight governance requirements which may not allow certain data to be held in the Public Cloud. This can require on-premise hardware. This approach is possible with Microsoft Azure, and is not specific to any type of workloads, although Governments may find this especially useful. [Hybrid Cloud Computing - Definition | Microsoft Azure](#)

28. What are the three components necessary for any role-based access control (RBAC) assignment?

a. Scope

Scope determines which set of resources (subscription, resource group, individual VM, etc.) a user or other identity has access to.

b. Security principal

Security principal is the identity, or the “who,” that needs access.

29. Define “economy of scale”.

b. The ability to do things more efficiently or at a lower cost per unit when operating at a larger scale.

CORRECT (The ability to do things more efficiently or lower cost per unit when operating at a larger scale) - Cloud providers such as Microsoft, Google, and Amazon are large businesses that leverage the benefits of economies of scale and then pass the savings on to their customers. Reference: [Economies of scale - Learn | Microsoft Docs](#)

30. You need to create a network drive in Azure Storage. The drive needs to be accessible from several computers that run Windows 8.1. What storage solution should you create?

b. A File service in a storage account

CORRECT (A File service in a storage account) - Azure Files offers fully managed file shares in the cloud that are accessible via the industry standard Server Message Block (SMB) protocol. Azure file shares can be mounted concurrently by cloud or

on-premises deployments of Windows, Linux, and macOS. [Introduction to Azure Files | Microsoft Docs](#)

31. What methods are available to connect to the Azure Public Cloud?

a. Over the internet

CORRECT (Over the internet) - The methods to connect to the Azure Public Cloud are over the internet to public endpoints, via site or client VPN's to devices you configure in the Cloud environment or through a dedicated connection such as Express Route. As a customer it is not possible to connect directly into the environment whilst being physically at the datacentre. [Networking | Microsoft Azure](#)

a. Express Route

CORRECT (Express Route) - The methods to connect to the Azure Public Cloud are over the internet to public endpoints, via site or client VPN's to devices you configure in the Cloud environment or through a dedicated connection such as Express Route. As a customer it is not possible to connect directly into the environment whilst being physically at the datacentre. [Networking | Microsoft Azure](#)

b. Client or Site to Site VPN

CORRECT (Client or Site to Site VPN) - The methods to connect to the Azure Public Cloud are over the internet to public endpoints, via site or client VPN's to devices you configure in the Cloud environment or through a dedicated connection such as Express Route. As a customer it is not possible to connect directly into the environment whilst being physically at the datacentre. [Networking | Microsoft Azure](#)

32. You need to choose an Azure-native tool that enables you to manage, control, and monitor access to important resources in your organization. These resources include resources in Azure AD, Azure, and other Microsoft Online services such as Microsoft 365 or Microsoft Intune. What service should you choose?

a. Azure Privileged Identity Management (PIM)

Azure Privileged Identity Management (PIM) is a service in Azure

Active Directory (Azure AD) that enables you to manage, control, and monitor access to important resources in your organization.

33. Which of the following Azure services are Platform as a Service (PaaS) solutions?

b. Azure Functions

Azure Functions is an on-demand environment for developing software solutions without the need to manage the underlying operating system.

d. Azure App Service

Azure App Services provides an on-demand environment for application hosting without needing to manage the underlying operating system, including patching, storage, and configuration.

34. You need to prevent the accidental deletion of a critical VM in an Azure resource group. Personnel need to be able to change the configuration of the VM, if needed, such as changing the VM size. What should you use to accomplish this task?

c. Apply a delete lock on the VM.

A delete lock on a resource prevents the resource from being deleted; however, it can still be modified or updated.

35. What are some of the advantages of using a subnet with your Azure Virtual Network?

a. You can logically group services on the same Virtual Network.

CORRECT (You can logically group services on the same Virtual Network.) - Subnets enable you to segment the virtual network into one or more sub-networks and allocate a portion of the virtual network's address space to each subnet. This makes address allocation more efficient, you can have a separate network security group for the subnet, and you can logically group services as well. [Azure Virtual Network | Microsoft Docs](#)

c. IP address allocation on the subnet is more efficient.

CORRECT (IP address allocation on the subnet is more efficient.) - Subnets enable you to segment the virtual network into one or

more sub-networks and allocate a portion of the virtual network's address space to each subnet. This makes address allocation more efficient, you can have a separate network security group for the subnet, and you can logically group services as well. [Azure Virtual Network | Microsoft Docs](#)

- e. **You can secure a subnet individually from the entire virtual network.**

CORRECT (You can secure a subnet individually from the entire virtual network.) - Subnets enable you to segment the virtual network into one or more sub-networks and allocate a portion of the virtual network's address space to each subnet. This makes address allocation more efficient, you can have a separate network security group for the subnet, and you can logically group services as well. [Azure Virtual Network | Microsoft Docs](#)

36. What is the aim of using Azure Functions in a serverless architecture on Azure?

- c. **To have each function do a single task, which enables high performance and separation of application responsibilities.**

CORRECT (To have each function do a single task, which enables high performance and separation of application responsibilities.) - Azure Functions are great at doing a single task over and over again without you having to worry about the infrastructure. [Azure Functions serverless compute | Microsoft Azure](#)

37. Which of the following Azure storage types is most suitable for sharing files using the Server Message Block (SMB) protocol?

- a. **Azure Files**

CORRECT (Azure Files) - Azure Files provides highly available network file shares using the SMB protocol. This allows multiple VMs to read and write the files, and files may be accessed remotely using a URL. [Introduction to Azure Storage - Cloud storage on Azure | Microsoft Docs](#)

38. According to the Shared Responsibility Model, what are you responsible for managing in a PaaS product? Select 2 true answers.

a. Application management

PaaS services, such as App Services, remove the need to manage hardware and the underlying operating system; however, you are still responsible for managing the application data/code.

d. Information and data

All cloud models, including PaaS, require you to be responsible for the data that is migrated or created by your PaaS service.

39. Which of the following represents the billing entity for our Azure resource costs?

d. Subscriptions

A subscription represents the billing entity for our Azure resource costs. All resources we use in Azure are associated with a subscription. Any resources within a subscription accrue a costs that accumulates to our total costs for that specific subscription in Azure.

40. What is the purpose of the Total Cost of Ownership (TCO) calculator on Azure?

b. Estimate the cost savings you can realize by migrating your existing workloads to Azure

The Azure Total Cost of Ownership (TCO) Calculator is used to estimate the cost savings you can realize by migrating your existing workloads to Azure, which includes both savings realized from moving to VMs or migrating to other managed services.

41. You and your team interact with Azure Storage. You want to recommend a locally installed tool that provides a user-friendly drag-and-drop GUI interface to transfer all storage types. Which tool would you recommend?

b. Azure Storage Explorer

Azure Storage Explorer is a drag-and-drop GUI interface for all storage types.

42. In Azure, we use roles to ensure separation of responsibilities. We want to control the ability for our teams to manage billing within Azure. We assign the Billing Admin role to the necessary personnel within our organization.

Which of the following can these billing administrators now manage within Azure?

c. Subscriptions

The Billing Admin role in Azure is used to control the ability of users to manage billing information and subscriptions.

43. According to the Shared Responsibility Model, what are you responsible for managing in a SaaS product? Select 2 true answers.

c. Information and data

All cloud models, including SaaS, require you to be responsible for the data that is migrated or created by your PaaS service.

d. Devices and accounts

All cloud models, including SaaS, require you to manage the devices and accounts that access your application.

44. Which are considered serverless services on Azure?

a. Event Grid

Event Grid is a serverless service on Azure. Reference: [Event Grid](#)

d. Azure Functions

Azure Functions is a serverless service on Azure. Reference: [Azure Functions Serverless Compute](#)

e. Azure Logic Apps

Azure Logic Apps is a serverless service on Azure. Reference: [Logic App Service | Microsoft Azure](#)

f. App Services

Azure App Services can run and scale web, mobile, and API applications on the fully managed environment platform of your choice, including serverless. Reference: [Azure Serverless](#)

EXAM 4 - ANSWERS

1. Which of the following is true of the Cost Management feature in Azure?

b. Create alerts for unexpectedly high expenses

Along with creating budgets, you can also create alerts based on budgets to alert you when spending meets certain percentage thresholds as well as alert for unexpectedly high costs.

c. Create budgets to proactively manage and monitor costs

Budgets help plan for and drive organizational accountability. They help inform others about their spending to proactively manage costs and to monitor how spending progresses over time.

d. View Azure Advisor recommendations for reducing costs

The Cost Management portal also includes Advisor recommendations for reducing costs within your current resources.

2. Your company, A Llama Guru, is becoming increasingly popular (why wouldn't it be?). You have to add more virtual machines to run your web facing application. What is the best way to ensure that traffic is distributed and that all virtual machines are being used optimally?

d. Use Azure Load Balancer to distribute the inbound flow of internet traffic to a backend pool of virtual machines.

CORRECT (Use Azure Load Balancer to distribute the inbound flow of internet traffic to a backend pool of virtual machines.) - An Azure Load Balancer service is used to distribute all incoming requests to a web endpoint, and then guiding it to an instance in a backend pool of servers. Application Gateway is used to route traffic to specific VMs based on traffic properties such as the URL. A VPN Gateway is used to link Azure and your on-premises account securely as if on the same network. [What is Azure Load Balancer? - Azure Load Balancer | Microsoft Docs](#)

3. What is the purpose of Log Analytics?

c. Gain insights from stored logs and metrics collected by Azure Monitor via queries

Log Analytics is both a storage and query source for Azure logs and metrics.

4. Management groups are **not** used to do which of the following for our organization?

b. Manage resource lifecycle

Management groups are not used to manage resource lifecycle. We use resource groups to manage resource lifecycles.

5. The Cosmos DB instance that your application uses has suddenly stopped responding. You cannot find any misconfigurations in your database; however, it is still unresponsive. You need to rule out an outage before you perform additional troubleshooting. What should you do?

c. Check Azure Service Health for any outages.

Azure Service Health notifies you about Azure service incidents and planned maintenance so you can take action to mitigate downtime.

6. Which Azure service delivers a comprehensive solution for collecting, analyzing, and acting on telemetry from your cloud and on-premises environments?

c. Azure Monitor

Azure Monitor delivers a comprehensive solution for collecting, analyzing, and acting on telemetry from your cloud and on-premises environments. This information helps you understand how your applications are performing and proactively identify issues affecting them and the resources they depend on.

7. Your company is migrating an internal web application to the cloud. The application requires specific configuration changes within the Operating System. Which of the following cloud deployment solutions would be most suitable?

a. Infrastructure as a Service (IaaS)

CORRECT (Infrastructure as a Service (IaaS)) - Only Infrastructure as a Service provides the required level of access to the Operating System. Platform as a Service (PaaS) is a complete de-

velopment and deployment environment in the cloud, but does not provide the same level of Operating System access as an IaaS solution. Software as a service (SaaS) allows users to connect to and use cloud-based apps over the Internet but provides no access to the Operating System. Function as a Service (FaaS) such as Azure Functions are small single-purpose applications which do not provide Operating System access. Reference: [What is IaaS? Infrastructure as a Service | Microsoft Azure](#)

8. How does passwordless authentication ease the burden of signing in with multi-factor a

d. Removes the system password and replaces it with device authentication combined with biometrics/PIN.

With passwordless authentication, the system login does not prompt for a password. Instead, it prompts for authentication from an approved device, usually with biometrics or a PIN code.

9. Your company is beginning the process of migrating their existing applications to Azure. A business-critical accounting application requires authentication with the NTLM protocol. This application will be migrated to a virtual machine in Azure. Which options are available for hosting this application in Azure while still authenticating with Active Directory?

a. Configure an Azure VM with Windows Server, and operate as an Active Directory domain controller. Configure the application to authenticate with your VM-hosted AD server.

This is referred to as self-managed AD, where you are in charge of configuring and maintaining a Windows Server acting as a domain controller.

b. Configure the Azure Active Directory Domain Services (AADDS) service to act as a fully managed Active Directory environment. Give the AADDS instance a unique namespace and configure the application to authenticate with your AADDS instance.

AADDS is a fully managed instance of classic Active Directory, which is compatible with AD DS managed and protocols such as NTLM, LDAP, Kerberos, Group Policy, and more. AADDS re-

quires a unique namespace and does not extend an existing AD DS environment.

- c. **Continue using your on-premises AD server, and synchronize the server with Azure AD over Azure AD Connect. Configure the application to authenticate with your on-premises AD server.**

One option is to simply continue hosting an on-premises AD server, if you are not removing all existing on-premises infrastructure.

10. Your company wants to make use of Azure for deployment of various solutions. They want to ensure suspicious attacks and threats using compromised credentials to resources in their Azure account are prevented. Which of the following helps prevent such attacks by using in-built sensors in Azure?

- a. **Microsoft Defender for Identity (formerly Azure Advanced Threat Protection)**

CORRECT (Azure Defender for Identity) - Microsoft Defender for Identity (formerly Azure Advanced Threat Protection) is a cloud-based security solution that leverages your on-premises Active Directory signals to identify, detect, and investigate advanced threats, compromised identities, and malicious insider actions directed at your organization. Microsoft routinely changes the names of their services, including this one. This is something to be aware both on the exam, where you may encounter the new or old names, and also in the real-world.

11. What is the purpose of a resource lock in Azure?

- c. **Prevent accidental deletion or modification of critical resources.**

Locks can be applied to specific resources, resource groups, or subscriptions. They can either prevent deletion or modification of a resource regardless of user permissions.

12. Which of the following is a correct statement regarding Azure?

- c. **Non-root management groups can have only a single parent management group and many child management groups.**

In Azure, any non-root management group can have only a single parent management group and many child management groups. In the case of the root management group, it doesn't have a parent management group since it is the top-level resource.

13. Your application is hosted on a VM scale set that is able to automatically add and remove individual VMs based on application load. What cloud concept is demonstrated in this example?

d. Scalability

Scalability is the ability to quickly and (often) automatically increase or decrease computing capacity to meet the demand needed at a given moment. It is the ability to both grow and shrink computing capacity without disrupting an application. This prevents extra or unused computing capacity that is not cost efficient.

14. Your organization hosts a customer-facing application that is used to generate revenue. Demand fluctuates at different periods of the day: it is most active during daytime hours, but does not have much traffic overnight. The application needs to automatically increase and decrease compute capacity to meet demand, but not run up costs when demand is low. Which cloud attribute describes the ability for public cloud offerings to meet this requirement?

d. Scalability

Scalability describes the ability to increase and decrease compute (often automatically) in order to meet customer demand, while also not paying for more compute than is needed at any given moment.

15. When implementing passwordless authentication with Azure AD, what authentication methods are currently available to use?

a. Windows Hello

Windows Hello uses facial recognition on enabled Windows computers for passwordless authentication.

b. Microsoft Authenticator

To date, Microsoft Authenticator is the only smartphone MFA app that works with Azure AD's passwordless authentication methods.

d. FIDO2 Security Key

FIDO2 security keys are a hardware USB key used with passwordless and other MFA authentication.

16. Our organization is planning to use Azure. We have gathered from planning meetings that we will need to segment billing between various departments, such as marketing and human resources. Which of the following would be the best way to implement segmentation of billing for Azure?

a. Create a separate subscription for each department under our Azure account.

In Azure we can have an unlimited number of subscriptions under the same Azure account, and we can follow common schemes of segmenting the billing by creating subscriptions for each department.

17. Our organization is really starting to grow within Azure. We have several subscriptions at this point, and managing access control to these subscriptions for a single Azure AD tenant is becoming cumbersome. Which of the following would allow our organization to manage access control to our Azure subscriptions?

b. Management groups

Management groups can be used to organize our subscriptions into an organizational hierarchy, so that we can granularly manage things, such as access control to the various subscriptions associated with our Azure AD tenant.

18. Llama Financial is our organization, and we are in charge of our cloud spend. At this time, we do not have a way to manage our cloud spend in an automated fashion. Which of the following tools could we use to automate management of our cloud spend on Azure?

b. Cost Management tool

The Cost Management tool in Azure is our central tool for managing our cloud spend in an automated fashion. Using the Cost Management tool, we can do things like create billing alerts to alarm us when our cloud spend exceeds a specified threshold.

19. Which of the following statements is true in regards to Azure billing for our Azure subscriptions?

- c. In Azure, billing cycles are monthly and require payment within 30 or 60 days.**

In Azure, we are billed on a monthly basis and required to make payment within 30 or 60 days of the billing statement.

20. You have a web application on Azure with a number of virtual machines to run various processes. One of these virtual machines is in charge of processing images. Which Azure service could you use to route all requests for the “/image/” URLs to this specific VM?

- d. Use an Application Gateway to route URLs containing the “/image/” path.**

CORRECT (Use an Application Gateway to route URLs containing the “/image/” path.) - An Application Gateway is used specifically for routing traffic based on parameters in the traffic itself. This could be all requests to the “/images/” path of the URL being sent to a specific VM. A VPN Gateway is used to securely connect an Azure Virtual Network with an on-premises network. A CDN does not route traffic. A Load Balancer routes all traffic without looking at it. What is Azure Application Gateway | Microsoft Docs

21. Which of the following are Platform-as-a-Service (PaaS) database offerings on Azure?

- b. Azure SQL Database**

CORRECT (Azure SQL Database) - Azure SQL Database is a fully managed offering which provides the option of either a hosted service (PaaS) or hosted infrastructure (IaaS). [Choose the right deployment option - Azure SQL Database | Microsoft Docs](#)

- d. Cosmos DB**

CORRECT (Cosmos DB) - Azure Cosmos DB is a fully managed Platform-as-a-Service database offering [Azure Cosmos DB - Multi-Model Database Service | Microsoft Azure](#)

22. What Cloud model allows you to have complete control over the operating system?

b. Infrastructure as a Service

CORRECT (Infrastructure as a Service) - Infrastructure as a Service (IaaS) allows you to have complete control over the virtual machine operating system and any applications that you install onto the virtual machine. Reference: [What is IaaS? Infrastructure as a Service | Microsoft Azure](#)

23. Which of the following Azure Resource Manager tools are able to run a PowerShell script?

b. Azure PowerShell

PowerShell can, unsurprisingly, run PowerShell scripts.

c. Azure Cloud Shell via the Azure portal

Cloud Shell contains both the Azure CLI and PowerShell environments. You can run Azure PowerShell scripts in Azure Cloud Shell using the PowerShell environment.

24. You need to choose a performance option for an Azure storage account. This storage account will contain small blob objects used to train machine learning models, and it requires the fastest possible performance. Which performance option should you choose?

d. Premium block blobs

Premium block blobs provide fast performance for block blob storage types (e.g., blob objects).

25. In Azure, how many free trial subscriptions can we have per Microsoft account?

b. Microsoft accounts can have only a single free trial subscription to Azure.

For Azure, we are allotted 1 free trial subscription per Microsoft account.

26. To access the Azure Portal in a web browser, what website URL do you need to visit?

c. portal.azure.com

CORRECT (portal.azure.com) - The Azure Portal can be accessed

from portal.azure.com in a web browser. The other URLs will not provide access to the Azure Portal. Be careful to only log in to the portal from a legitimate address. [Microsoft Azure](#)

27. The Cost Management tool is used to manage Azure costs. Who is able to use the Cost Management tool?

d. All Azure subscriptions have access to the Cost Management tool.

The Cost Management tool in Azure is supported by all subscriptions on Azure.

28. Which of the following is a Software as a Service (SaaS) solution?

d. Microsoft Office 365

CORRECT (Microsoft Office 365) - Software as a service (SaaS) allows users to connect to and use cloud-based apps over the Internet such as email or Microsoft Office 365. SaaS provides a complete software solution that you rent on a pay-as-you-go basis.

29. You are inviting an external consultant to help implement a new Azure initiative. You would prefer the consultant use their existing identity credentials to access your Azure tenant's resources, so you will provide external guest access to your Azure tenant. What must the consultant have in order to use their existing identity credentials?

b. An account with a known identity provider

External guest access requires an identity provider, which can include Microsoft, Google, and Facebook accounts, as well as other configured third-party providers. The identity provider account is usually an email account.

30. In our organization, we are planning to deploy a virtual machine workload to host our robotic process automation solution. Which of the following tools can estimate the costs of the virtual machines for this workload?

b. Pricing calculator

The Pricing calculator is used to estimate costs for a specific workload in Azure, such as the virtual machine workload for hosting our robotic process automation solution.

31. Name 2 benefits unique to using Government Cloud on Azure.
- a. Dedicated regions for data isolation**
Government Cloud resources are hosted in dedicated regions for use only by government agencies.
 - d. Screened personnel**
Microsoft employees who service Government Cloud must go through additional screening requirements.
32. To access the Azure Cloud Shell (>_), what do you need to do?
- a. Select the icon (>_) in the top menu of the Azure Portal.**
CORRECT ('Select the icon (>) in the top menu of the Azure Portal') - The Azure Cloud Shell is accessible by selecting the (>) button in the top menu of the Azure Portal. [Azure Portal](#)
33. Which of the following statements regarding Azure Virtual Machines is true?
- b. Deleted virtual machines will still incur charges for storage.**
CORRECT (Deleted virtual machines will still incur charges for storage) - When a virtual machine is deleted, its managed disk remains in the Azure portal and can be used to create a new virtual machine. Until this disk is manually removed, you will incur charges for the disk whether it is in use or not. [Purchase Azure products and services - Learn | Microsoft Docs](#)
34. What is the purpose of Azure AD Connect?
- c. Synchronize user identities in an on-premises AD environment with Azure AD.**
Azure AD Connect is able to synchronize your on-premises and Azure AD identities to manage both in a single location.
35. What is the name of the logical container used to group together and manage resources in Azure?
- b. Resource Groups.**
CORRECT (Resource Groups) - An Azure Resource Group is a

container used to hold the resources deployed in your Azure account. Resource Groups can contain almost any type of resource in Azure, such as Virtual Machines, VNets, and Storage Accounts. The other options do not exist. [Overview - Azure Resource Manager | Microsoft Docs](#)

36. Which of the following tools provides us the ability to analyze Azure costs and makes cost-savings recommendations?

a. Cost Management tool

The Cost Management tool gives us analytics features for gathering insight into our cloud costs and provides cost-savings recommendations for our Azure resources.

37. We are running a non-critical workload on Azure using on-demand virtual machines. This workload can have interruptions as it is not business critical. We recently used the Cost Management tool to analyze that we are spending a lot of money on Azure. We decide to look for a solution for decreasing the costs of this non-business-critical workload. Which of the following would provide us cost savings of up to 90% on this workload?

b. Spot Virtual Machines

Spot Virtual Machines are virtual machines that are provided at a reduced cost on Azure. They are provided at a reduced cost because they can be allocated/deallocated by Microsoft based on overall Azure compute capacity. Using Spot Virtual Machines could provide up to a 90% cost savings, and we don't have to worry if the virtual machines are deallocated as the workload we have is non-business critical.

38. Which of the following tools can be used to manage Azure resources on a Google Chromebook?

a. Azure Cloud Shell

CORRECT (Azure Cloud Shell) - Azure Cloud Shell is an interactive, browser-accessible shell for managing Azure resources. It provides the flexibility of choosing the shell experience that best suits the way you work. Linux users can opt for a Bash experience, while Windows users can opt for PowerShell. At this time, there is no native PowerShell Core distribution for Google OS,

and the current version of the CLI cannot be installed on Google OS. [Azure Cloud Shell](#)

c. Azure portal

CORRECT (Azure portal) - Azure portal is a web application that is accessible on all modern desktop, tablet devices, and browsers. As long as your device can run a modern web browser, you can generally use the Azure Portal. [Supported browsers and devices for Azure portal | Microsoft Docs](#)

39. What is the purpose of Conditional Access policies?

b. Component of Azure AD to allow authentication based on conditions (i.e., if-then statements) that must be met to either allow or deny access.

Conditional Access is the tool used by Azure Active Directory to bring signals together, to make decisions, and enforce organizational policies. Conditional Access policies, at their simplest, are if-then statements. If a user wants to access a resource, then they must complete an action or meet a set of conditions.

40. What is the purpose of role-based access control (RBAC)?

d. Authorization system built on Azure Resource Manager that provides fine-grained access management of Azure resources.

Azure RBAC provides fine-grained control to Azure resources. It is defined by a role definition assigned to a security principal at a specific scope of access.

41. Which of the following is true when calculating costs in Azure related to bandwidth?

c. Outbound data transfer between Azure services located in two regions is charged

Outbound data transfer between Azure services located in two regions is charged at the normal rate and inbound data transfer is free. Azure Documentation: [Bandwidth pricing > Frequently asked questions](#).

42. App Services allows you to create web, mobile, API and logic apps. In the shared responsibility model, what model is App Services aligned to?

a. Platform as a Service (PaaS)

CORRECT (Platform as a Service (PaaS)) - App Services aligns to the Platform as a Service Model as App Services provides a development and deployment environment, with Infrastructure components, development tools, business intelligence and database management systems all ready to go without you having to provision the individual components [What is PaaS? Platform as a Service | Microsoft Azure](#)

43. What command-line environments are available for use in the Azure Cloud Shell?

a. PowerShell

CORRECT (PowerShell) - The Azure Cloud Shell supports the Bash and PowerShell command-line environments. MS-DOS and Windows are Operating Systems and are therefore not valid options. [Azure Cloud Shell - Browser-based command line | Microsoft Azure](#)

c. Bash

CORRECT (Bash) - The Azure Cloud Shell supports the Bash and PowerShell command-line environments. MS-DOS and Windows are Operating Systems and are therefore not valid options. [Azure Cloud Shell - Browser-based command line | Microsoft Azure](#)

44. Which Azure service can you use to make sure your virtual machines are running smoothly and without problems?

a. Azure Monitor.

CORRECT (Azure Monitor) - Azure Monitor collects and analyzes telemetry data from your virtual machines to provide you with alerts and recommendations for how they are running. [Azure Monitor overview - Azure Monitor | Microsoft Docs](#)

EXAM 5 - ANSWERS

1. What are the characteristics of an Availability Zone?

- c. Availability Zones protect your instances from the failure of a single datacenter.**

CORRECT (Availability Zones protect your instances from the failure of a single datacenter.) - An Azure Availability Zones are groups of datacenters within a region which have their own isolated power, cooling, and networking. This is to ensure if one part of a local power grid fails, or a major internet outage occurs in a city that it should not impact multiple datacenters. This exists to protect your instances from the failure of entire datacenters. Each availability zone will share part of the load for running every Azure service in a region. Many resource types can benefit from Availability Zones, such as Storage Accounts, Virtual Machines, and Databases [Azure Availability Zones | Microsoft Azure](#)

- d. Each zone has its own isolated power, cooling, and networking.**

CORRECT (Each zone has its own isolated power, cooling, and networking.) - An Azure Availability Zones are groups of datacenters within a region which have their own isolated power, cooling, and networking. This is to ensure if one part of a local power grid fails, or a major internet outage occurs in a city that it should not impact multiple datacenters. This exists to protect your instances from the failure of entire datacenters. Each availability zone will share part of the load for running every Azure service in a region. Many resource types can benefit from Availability Zones, such as Storage Accounts, Virtual Machines, and Databases [Azure Availability Zones | Microsoft Azure](#)

- e. Availability Zones exist within regions.**

CORRECT (Availability Zones exist within regions.) - An Azure Availability Zones are groups of datacenters within a region which have their own isolated power, cooling, and networking. This is to ensure if one part of a local power grid fails, or a major internet outage occurs in a city that it should not impact multiple datacenters.

ters. This exists to protect your instances from the failure of entire datacenters. Each availability zone will share part of the load for running every Azure service in a region. Many resource types can benefit from Availability Zones, such as Storage Accounts, Virtual Machines, and Databases [Azure Availability Zones | Microsoft Azure](#)

2. Which of the following can be configured through Azure Blueprints?

c. All of the answers

CORRECT (All of the answers) - All of the answers provided are possible through Blueprint configuration. Blueprints are used by Architects and Engineers to design and build environments and are a useful tool in ensuring you have commonly defined subscriptions for certain use case types. [Azure Blueprints - Governed Cloud Environments | Microsoft Azure](#)

3. To better improve your Azure AD accounts, you want to centrally enforce and manage multi-factor authentication for all administrator accounts that log in to Azure. How should you accomplish this?

c. Create a Conditional Access policy that requires administrator accounts to authenticate with MFA when they log in to Azure.

Conditional Access policies provide centralized enforcement of MFA, which can be scoped to specific users/groups, applications, and more.

4. Select the cloud concept that is defined by: - Using clusters of VMs to ensure resource availability - a set of technologies that minimize IT disruptions by providing business continuity of IT services through redundant, fault-tolerant, or failover-protected components within an Azure region

c. High availability

While there is some overlap between many of the core cloud concepts, high availability is specifically defined by making sure IT disruptions are minimized as much as possible, which is carried out by using clusters of identical servers, automatically replacing failed servers, redundant, fault-tolerant, or failover-protected components, etc.

5. Which of the following is an Azure compute service?

c. Azure Functions.

CORRECT (Azure Functions.) - Azure Functions is the only Azure compute service in the provided options. Azure Functions is a managed Function-as-a-Service (FaaS) offering, providing the ability to run small pieces of code called functions in the cloud.

6. Which Azure service should you use to correlate metrics and logs from multiple Azure resources into a centralized repository?

c. Azure Monitor

CORRECT (Azure Monitor) - Log data collected by Azure Monitor (formerly Azure Log Analytics) is stored in a Log Analytics workspace, which is based on Azure Data Explorer. It collects telemetry from a variety of sources and uses the Kusto query language used by Data Explorer to retrieve and analyze data. [Overview of log queries in Azure Monitor - Azure Monitor | Microsoft Docs](#)

7. Which type of cloud service gives you the most flexibility and control over the solutions you implement?

a. IaaS

IaaS, or Infrastructure as a Service, is the most flexible of cloud services, allowing you the most control over the solutions you implement in Azure, where you can run your own virtual machines, and design your own storage. Platform as a Service (PaaS) manages the OS, Middleware, and Runtimes. Function as a Service (FaaS) is similar to PaaS in this respect. Software as a Service (SaaS) manages the Applications. Reference: [What is IaaS? Infrastructure as a Service | Microsoft Azure](#)

8. You need to view performance metrics and customer usage for your website. Which Azure service is able to help with this?

c. Application Insights

Application Insights provides valuable data on web-based applications, such as performance, customer usage, error reporting, and more.

9. What is the description of a region in Microsoft Azure?

- d. A set of datacenters deployed within a latency-defined perimeter and connected through a dedicated regional low-latency network.**

CORRECT (A set of datacenters deployed within a latency-defined perimeter and connected through a dedicated regional low-latency network.) - An Azure region is a set of data centres, deployed within a latency-defined perimeter and connected through a dedicated regional low-latency network. With more global regions than any other cloud service provider, Azure gives customers the flexibility to deploy applications where they need. An Azure region has discrete pricing and service availability. Reference: [Azure global infrastructure](#)

10. Which of the following Azure services is an example of serverless cloud computing?

- d. Azure Functions**

Serverless is a cloud computing category that completely removes all server resource management and bills by only resources consumed. From this list, Azure Functions does not have any server setup component, and you are charged only when a function runs. You are not charged for server resources that you may or may not be using. [Azure Functions](#).

11. You are beginning to extend your on-premises data center into Azure. You have created a new Azure subscription and resource group called RG-One. You deploy two virtual machines into RG-One with the intent of promoting these to Active Directory domain controllers. What kind of cloud service would this be considered?

- b. Infrastructure-as-a-Service (IaaS)**

CORRECT (Infrastructure-as-a-Service (IaaS)) - Infrastructure as a service (IaaS) is the use of on-demand computing infrastructure which is provisioned and managed over the internet. Deploying virtual machines into an Azure subscription would be considered an IaaS service. Reference: [What is IaaS? Infrastructure as a Service | Microsoft Azure](#)

12. Which of the following statements about Azure availability zones are true?

- c. **Azure regions that support Availability Zones have a minimum of three.**

CORRECT (Each Azure region that supports Availability Zones has a minimum of three availability zones) - To ensure resiliency, there's a minimum of three separate zones in supported regions. [Availability Zones](#)

- d. **Each availability zone has its own power, cooling, and networking capabilities.**

CORRECT (Each availability zone has its own power, cooling, and networking capabilities) - Availability Zones are unique physical locations within an Azure region. Each zone is made up of one or more datacenters equipped with independent power, cooling, and networking. [Availability Zones](#)

13. You are asked to identify the benefits of using a serverless solution with Azure Functions. Which of the following are benefits of Azure Functions?

- b. **No infrastructure to manage.**

CORRECT (No infrastructure to manage.) - Serverless computing with Azure Functions enables developers to build applications faster by eliminating the need for them to manage infrastructure. With Azure Functions, Azure automatically provisions, scales and manages the infrastructure required to run the code. Azure Functions are triggered by events and run for only a short period of time so are not always running. [Serverless computing and applications | Microsoft Azure](#)

- d. **Automatic scalability.**

CORRECT (Automatic scalability.) - Serverless computing with Azure Functions enables developers to build applications faster by eliminating the need for them to manage infrastructure. With Azure Functions, Azure automatically provisions, scales and manages the infrastructure required to run the code. Azure Functions are triggered by events and run for only a short period of time so are not always running. [Serverless computing and applications | Microsoft Azure](#)

14. What of the following apply to Azure Service Health?

c. Supports both planned and unplanned outages.

CORRECT (Supports both planned and unplanned outages) - Azure Service Health is a free service available to all Azure users which provides a personalized dashboard highlighting both planned and unplanned service issues affecting your resources. [Azure Service Health | Microsoft Azure](#)

15. Regarding Azure's premium performance options for storage accounts, what are key limitations that must be considered when choosing one?

a. Premium performance options do not support all redundancy types.

Premium performance options only support the single-region redundancy types. Further, premium page blobs only support the ZRS (single zone) redundancy type.

b. Premium performance options are limited to a specific storage type.

Each of the premium performance options only support a single storage type for the entire storage account. For example, if you enable premium file shares for your performance type, you cannot use any storage format across the entire storage account other than Azure Files.

d. Premium performance options cost more than the standard general-purpose v2 performance type.

Premium performance options cost more than the standard performance type. You must balance performance with costs, which could be significant for very large storage amounts.

16. You need to choose a performance option for an Azure storage account. This storage account will provide cloud-hosted file server functionality for a high performing Linux application that requires NFS file shares. Which performance option should you choose?

c. Premium File Shares

Premium file shares provide high performance support for Azure Files, which is a cloud-hosted file server in either SMB or NFS format.

17. What are the main components of an Azure VPN Gateway setup?

a. A secure connection, called a tunnel, which encrypts the traffic sent through it.

CORRECT (A secure connection, called a tunnel, which encrypts the traffic sent through it.) An Azure VPN Gateway consists of a Virtual Network, a secure connection called a tunnel, and an on-premises network and gateway. A storage account, a backend pool of VMs and a Load Balancer are not needed. [About Azure VPN Gateway | Microsoft Docs](#)

d. The VPN Gateway must be attached to an Azure Virtual Network.

CORRECT (The VPN Gateway must be attached to an Azure Virtual Network.) - An Azure VPN Gateway consists of a Virtual Network, a secure connection called a tunnel, and an on-premises network and gateway. A storage account, a backend pool of VMs and a Load Balancer are not needed. [About Azure VPN Gateway | Microsoft Docs](#)

f. An on-premises network with a complimentary gateway that can accept the encrypted data.

CORRECT (An on-premises network with a complimentary gateway that can accept the encrypted data.) - An Azure VPN Gateway consists of a Virtual Network, a secure connection called a tunnel, and an on-premises network and gateway. A storage account, a backend pool of VMs and a Load Balancer are not needed. [About Azure VPN Gateway | Microsoft Docs](#)

18. Azure virtual machines can be moved between which of the following Azure resources?

a. Regions

CORRECT (Regions) - Using Azure Site Recovery, you can migrate Azure VMs to other regions. [Move a Windows VM resource in Azure - Azure Windows Virtual Machines | Microsoft Docs](#)

b. Subscriptions

CORRECT (Subscriptions) - Azure virtual machines can be moved between subscriptions with either Azure PowerShell or the Azure portal. [Move a Windows VM resource in Azure - Azure Windows Virtual Machines | Microsoft Docs](#)

d. Resource Groups

CORRECT (Resource Groups) - Azure virtual machines can be moved between resource groups with either Azure PowerShell or the Azure portal. [Move a Windows VM resource in Azure - Azure Windows Virtual Machines | Microsoft Docs](#)

e. Availability Zones

CORRECT (Availability Zones) - Using Azure Site Recovery, you can migrate Azure VMs to other Availability Zones. [Move a Windows VM resource in Azure - Azure Windows Virtual Machines | Microsoft Docs](#)

19. You are migrating a web-based application from your on-premises data-center to Microsoft Azure. The web application is primarily built on a Python Flask web framework. Your CIO has requested the application be migrated to an Azure solution that requires minimal ongoing maintenance. What type of cloud solution should you recommend?

b. Platform as a Service (PaaS)

PaaS solutions provide managed services to develop your own applications without the need to manage the underlying operating system.

20. We are working as a cloud architect for a cloud solutions provider. We have an exploratory call with a customer about migrating into the Azure cloud. Currently, the customer's infrastructure is all self-hosted, on-premises. The customer is interested in possible cost savings on the Azure

cloud. What tool can we use to provide the customer with a cost comparison between on-premises and in Azure?

b. TCO calculator

The TCO (Total Cost of Ownership) calculator is used to compare costs between our on-premises solutions and the Azure cloud equivalent of these solutions. We could use this tool to inform the customer of the possible cost savings involved with moving their workloads to Azure.

21. A cloud architecture consisting of both on-premise and public cloud networks is joined to allow applications to operate across the two. What is this known as?

a. Hybrid Cloud

CORRECT (Hybrid Cloud) - A Hybrid Cloud is created when on-premise and public cloud environments are joined. This is a method many companies with existing on-premise infrastructure transition through in their journey to cloud, as it gives flexibility between the two environments and enables a phased migration approach. Reference: [Microsoft cloud IT architecture resources | Microsoft Docs](#)

22. You are looking to build and host your website on Azure without needing to manage the underlying infrastructure. Which type of Cloud service should you choose?

d. Platform as a Service (PaaS)

CORRECT (Platform as a Service (PaaS)) - Platform as a service (PaaS) is a complete development and deployment environment in the cloud, with resources that enable you to deliver everything from simple cloud-based apps to sophisticated, cloud-enabled enterprise applications, all without you having to manage any of the underlying infrastructure or services. Reference: [What is PaaS? Platform as a Service | Microsoft Azure](#)

23. You are in the process of migrating your existing on-premises SQL databases to Azure. You will migrate them to Azure SQL databases, as opposed to deploying SQL database servers in Azure. What kind of cloud service would this be considered?

b. Platform-as-a-Service (PaaS)

CORRECT (Platform-as-a-Service (PaaS)) - PaaS is a complete development and deployment environment in the cloud with resources that enable you to deliver everything from simple cloud-based apps to sophisticated, cloud-enabled enterprise applications. An Azure SQL instance would be considered a PaaS service because you do not manage any guest servers as with IaaS. What is PaaS? Platform as a Service | Microsoft Azure

24. Which of the following services would be considered Software-as-a-Service (SaaS)?

b. Office 365

CORRECT (Office 365) - Office 365 is considered as SaaS due to the level of provider responsibility. Reference: What is SaaS? Software as a Service | Microsoft Azure

c. Azure Active Directory

CORRECT (Azure Active Directory) - Azure Active Directory is considered as SaaS due to the level of provider responsibility. Reference: What is SaaS? Software as a Service | Microsoft Azure

25. You have been asked to migrate a Windows-based legacy on-premise application to Azure with the minimal effort possible, which compute service should you choose?

b. Virtual Machines

CORRECT (Virtual Machines) - The simplest migration approach would be to use Azure Migrate and target Virtual Machines - virtual machines have the closest similarity to the on-premises platform where the application resides.

26. Which of the following are characteristic of private clouds?

a. High scalability

Private clouds often offer more scalability compared to on-premises infrastructure. Azure Documentation: What is a private cloud?

b. Improved security

Because resources are not shared with others, private clouds provide higher levels of control, privacy and security.

27. Your company is beginning the process of migrating their existing applications to Azure. A newer, business-critical accounting application authenticates over OAuth 2.0. This application will be migrated to a virtual machine in Azure. You want to reduce administrative effort, costs, and unneeded resources to support this application. How can you authenticate this migrated application to your Azure environment using Azure-native resources?

d. Configure the application to authenticate using Azure AD credentials over single sign-on (SSO).

Azure AD supports modern authentication protocols (e.g., OAuth 2.0) and is already present in your Azure environment.

28. Your company is beginning the process of migrating their existing applications to Azure. A business-critical accounting application requires authentication with the NTLM protocol. This application will be migrated to a virtual machine in Azure. Any authentication solution must integrate into your existing on-premises Active Directory domain. What options are available for hosting this application in Azure while still authenticating with Active Directory?

a. Configure an Azure VM with Windows Server, and operate as an Active Directory domain controller. Configure the application to authenticate with your VM-hosted AD server.

This is referred to as self-managed AD, where you are in charge of configuring and maintaining a Windows Server acting as a domain controller. It can integrate with an existing AD domain.

c. Continue using your on-premises AD server, and synchronize the server with Azure AD over Azure AD Connect. Configure the application to authenticate with your on-premises AD server.

One option is to simply continue hosting an on-premises AD server, if you are not removing all existing on-premises infrastructure.

29. You have an Azure virtual machine named vm-1 in a subnet named hub-subnet. This VM needs to send data to an Azure storage account. For security purposes, no traffic between the VM and storage account can travel over the public internet. Which Azure solutions are able to help fulfill this requirement?

a. Service endpoints

Both private endpoints and service endpoints can privately connect an Azure subnet to a managed Azure service. Service endpoints are a bit of a legacy solution compared to the greater capabilities of private endpoints, but both work with Azure VMs.

b. Private endpoints

Both private endpoints and service endpoints can privately connect an Azure subnet to a managed Azure service. Of the two, private endpoints provide more flexibility by allowing connected networks private access (including on-premises networks), but for Azure VMs, both solutions work.

30. When choosing between Azure Storage redundancy options, which of the following is true for the geo-zone-redundant storage (GZRS) option?

a. GZRS provides protection if an entire region becomes unavailable.

GZRS replicates data between a primary and secondary region.

b. GZRS creates six copies of replicated data in Azure Storage.

All of the single region redundancy options create three copies of data in a single region. The multi-region redundancy options create six copies: three in the primary region and three in the secondary region.

c. GZRS protects against the failure of an entire zone in the primary region.

GZRS replicates data between two regions. For the primary region, it replicates data three times across three zones. If one of the primary region's affected zone were to be unavailable, GZRS-replicated data would still be immediately available from the primary region.

31. What are some best practices for granting external guest access to Azure environments?

- b. Apply only the necessary RBAC permissions to the external account according to the needed scope of access.**

External guest accounts are subject to the same RBAC permissions as any internal account.

- c. Apply Conditional Access policies to secure the external account's access to Azure resources.**

Though not required, Conditional Access provides an additional layer of protection for any account to prevent unauthorized access.

32. You are creating a new storage account that will host Azure Files. You need to choose a redundancy option that is resilient to a zone becoming unavailable with no impact on service. You wish to save costs where possible. Which redundancy option should you choose?

- a. Zone-redundant storage (ZRS)**

Zone-redundant storage (ZRS) copies data across three zones in a single region. Of the redundancy options that meet the requirements, it is the least expensive.

33. What is the name of the Azure component that is responsible for all interactions with Azure, including the Azure portal, programmatic access, and command-line interaction?

- a. Azure Resource Manager**

The Azure Resource Manager manages and controls access to all interaction with Azure.

34. You realize that there have been several attempts to compromise user credentials for your Azure account using brute force. What is an Azure service that can warn you about this?

- c. Azure Defender for Identity (previously Advanced Threat Protection)**

Defender for Identity monitors user logins, and if there is something out of the ordinary, you will get an alert. Reference: [Microsoft Defender for Identity](#)

35. What type of service model is the Azure Cosmos DB service?

b. PaaS (platform as a service)

Platform as a service best describes Cosmos DB, as it is a managed database service in which the infrastructure and operating system is managed on your behalf, allowing you to focus on data structure and management.

36. When choosing between Azure Storage redundancy options, which of the following is true for the zone-redundant storage (ZRS) option?

c. ZRS protects against the failure of an entire zone in a region.

ZRS creates three copies of your data, one in each availability zone. If one zone is unavailable, data in the other two zones are still accessible.

37. What is a preferred method of inviting an external user as a collaborator in your Azure AD environment?

b. Invite their existing account as an external guest user.

Azure AD allows you to invite guest users with their existing user account, assuming it can be authenticated with a variety of identity providers.

38. Your company office is connected to an Azure virtual network named hub-vnet over a VPN connection. Your company maintains an Azure storage account that contains sensitive customer information. For security purposes, you need to disable public exposure of the storage account. You must also enable private access to the storage account from your company office. What should you do?

b. Implement a private endpoint in hub-vnet that connects to the storage account. Disable public access to the storage account.

Private endpoints enable private access from virtual networks to a single instance of an Azure PaaS service. Private endpoints can also share their private connection to connected networks, including VPN connections.

39. With any Azure Storage redundancy option, data is always replicated in the primary region. How many copies of the data are created by Azure?

a. Three

Azure creates three copies of data per region. All single-region options create three copies. All multi-region options create six copies, with three copies in each region. Reference: [Azure Storage Redundancy](#)

40. What is the name of the Azure feature that allows you to sign in to third-party applications using your Azure AD credentials?

c. Single Sign On (SSO)

Single Sign On allows you to use your Azure AD credentials as the authentication source for other applications.

41. You need to periodically move small amounts of blob storage data into Azure Storage. You need to use a command-line utility for these transfers that can be incorporated into scripts. Which tool should you use?

b. AzCopy

AzCopy is a command-line utility that transfers blob storage and Azure Files data. It can be incorporated into scripts.

42. What is the easiest way to quickly determine your security posture on Azure?

a. Read the secure score in Microsoft Defender for Cloud.

CORRECT (Use Microsoft Defender for Cloud score) - Microsoft Defender for Cloud constantly reviews your active recommendations and calculates your secure score based on them.

43. You are creating a new storage account for relatively non-critical business data that does not need high availability. You need to choose a redundancy option that will cost the least. Which redundancy option should you choose?

b. Locally redundant storage (LRS)

Locally redundant storage (LRS) is the least expensive redundancy option in Azure Storage, creating three copies of your data in a

single location or zone. It is the least fault tolerant option, which is balanced out by its lower price.

44. Your subscription contains multiple resource groups used for a variety of projects. You need to restrict the creation of storage accounts, regardless of end-user access in one of your resource groups. How can you do this?

d. Create an Azure Policy to restrict the creation of storage accounts in the affected resource group.

Azure Policies can restrict resource types at different scopes, including resource groups.