**AZ-900 Practice Test A - Results**

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**New**

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**Attempt 1**

All domains

* 50 all
* 40 correct
* 10 incorrect
* 0 skipped
* 0 marked

Collapse all questions

**Question 1Correct**

Which of the following Azure features is most likely to deliver the most immediate savings when it comes to reducing Azure costs?

**Auto shutdown of development and QA servers over night and on weekends**

**Your answer is correct**

**Using Azure Reserved Instances for most of your virtual machines**

**Using Azure Policy to restrict the user of expensive VM SKUs**

**Changing your storage accounts from globally redundant (GRS) to locally redundant (LRS)**

Overall explanation

Reserved Instances often offer 40% or more savings off of the price of pay-as-you-go virtual machines

See: <https://docs.microsoft.com/en-us/azure/cost-management-billing/reservations/save-compute-costs-reservations>

**Domain**

Azure SLAs

**Question 2Correct**

Azure Services can go through several phases in a Service Lifecycle. What are the three phases called?

**Development phase, QA phase, and Live phase**

**Preview Phase, General Availability Phase, and Unpublished**

**Your answer is correct**

**Private Preview, Public Preview, and General Availability**

**Announced, Coming Soon, and Live**

Overall explanation

Private Preview, Public Preview, and General Availability

**Domain**

Azure SLAs

**Question 3Correct**

In Microsoft Azure, what is the maximum number of virtual machines that can be included in a single Virtual Machine Scale Set, as per Azure's standard guidelines and capabilities?

**Your answer is correct**

**1000**

**Unlimited**

**10000**

**500**

Overall explanation

The correct answer is 1000.

Azure Virtual Machine Scale Sets are a service provided by Azure that allows you to manage, scale, and distribute large numbers of identical virtual machines. As per the limitations set by Microsoft Azure, a single Virtual Machine Scale Set can support up to 1000 VM instances.

This capacity allows for high availability and network load balancing across a large number of virtual machines, providing a robust and efficient solution for applications that require heavy compute resources. However, if you are using custom VM images, this limit decreases to 600 instances.

This functionality is part of Azure's Infrastructure as a Service (IaaS) offerings, providing flexibility and scalability to businesses and developers.

See: <https://docs.microsoft.com/en-us/azure/virtual-machine-scale-sets/overview>

**Domain**

Core Azure products

**Question 4Correct**

What is a DDoS attack?

**An attempt to read the contents of a web page from another website, thereby stealing the user's private information**

**Your answer is correct**

**A denial of service attack that sends so much traffic to a network that it cannot respond fast enough; legitimate users become unable to use the service**

**An attempt to guess a user's password through brute force methods**

**An attempt to send SQL commands to the server in a way that it will execute them against the database**

Overall explanation

Distributed Denial of Service attacks (DDoS) -a type of attack that originates from the Internet that attempts to overwhelm a network with millions of packets of bad traffic that aims to prevent legitimate traffic from getting through

See: <https://docs.microsoft.com/en-us/azure/virtual-network/ddos-protection-overview>

**Domain**

Secure Azure Networking

**Question 5Correct**

What feature within Azure will make recommendations to you about reducing cost on your account?

**Your answer is correct**

**Azure Advisor**

**Azure Service Health**

**Azure Security Center**

**Azure Dashboard**

Overall explanation

Azure Advisor analyzes your account usage and makes recommendations for you based on its set rules

See: <https://docs.microsoft.com/en-us/azure/advisor/advisor-overview>

**Domain**

Azure management tools

**Question 6Correct**

True or false: you can create your own policies if built-in Azure Policy is not sufficient to your needs

**FALSE**

**Your answer is correct**

**TRUE**

Overall explanation

True, you can create custom policies using JSON

See: <https://docs.microsoft.com/en-us/azure/governance/policy/tutorials/create-custom-policy-definition>

**Domain**

Azure governance methodologies

**Question 7Correct**

What is the name of Azure's hosted SQL database service?

**Your answer is correct**

**Azure SQL Database**

**Cosmos DB**

**SQL Server in a VM**

**Table Storage**

Overall explanation

SQL Database is a SQL Server compatible option in Azure, a database as a service

See: <https://docs.microsoft.com/en-us/azure/sql-database/sql-database-technical-overview>

**Domain**

Core Azure solutions

**Question 8Correct**

True or false: You cannot have more than one Azure subscription per company

**Your answer is correct**

**FALSE**

**TRUE**

Overall explanation

You can have multiple subscriptions, as a way to separate out resources between billing units, business groups, or for any reason you wish.

See: <https://docs.microsoft.com/en-us/azure/cloud-adoption-framework/decision-guides/subscriptions/>

**Domain**

Azure subscriptions

**Question 9Incorrect**

When establishing a Site-to-Site VPN connection with Azure, what kind of network device needs to be present or installed in your company's on-premises network infrastructure?

**An Application Gateway**

**Correct answer**

**A compatible VPN Gateway device**

**Your answer is incorrect**

**An Azure Virtual Network**

**A dedicated virtual machine**

Overall explanation

The correct answer is a compatible VPN Gateway device.

In order to establish a site-to-site VPN connection with Azure, a VPN Gateway is required on your company's internal network. A VPN Gateway is a specific type of virtual network gateway that sends encrypted traffic across a public network, like the Internet.

While the name might suggest it's a purely virtual entity, in practice, the term "VPN Gateway" often refers to a hardware device that's installed on-premises in your data center. This device uses Internet Protocol security (IPsec) to establish a secure, encrypted connection to the Azure VPN Gateway, which resides in the Azure virtual network.

This setup allows your local network and Azure to interact as if they're directly connected. In contrast, virtual machines, virtual networks, and application gateways are other types of Azure resources, but they do not facilitate creating a site-to-site VPN connection. It's important to note that your company's internal network hardware and settings must meet specific requirements to support a VPN Gateway.

See: <https://docs.microsoft.com/en-us/azure/vpn-gateway/vpn-gateway-howto-site-to-site-resource-manager-portal>

**Domain**

Core Azure products

**Question 10Correct**

Within the landscape of cloud service models, how would Microsoft's Outlook 365 be best categorized?

**Platform as a Service (PaaS)**

**Infrastructure as a Service (IaaS)**

**Your answer is correct**

**Software as a Service (SaaS)**

Overall explanation

The correct answer is SaaS, which stands for Software as a Service. Outlook 365, part of Microsoft's Office 365 suite, is a cloud-based service that provides access to various applications and services, including email, calendars, and contact management, which are delivered over the internet.

In a SaaS model, the service provider is responsible for the infrastructure, platform, and software, and ensures their maintenance and updates. Users simply access the services via a web browser or app, without needing to worry about the underlying infrastructure, platform, or software updates.

This contrasts with Infrastructure as a Service (IaaS), where the user is responsible for managing the operating systems, middleware, and applications, and Platform as a Service (PaaS), where the user manages only the applications and data. In both these models, the users have more responsibilities compared to SaaS.

Since Outlook 365 is a software application delivered over the web with all underlying infrastructure and platform taken care of by Microsoft, it falls into the SaaS hosting model.

See: <https://azure.microsoft.com/en-us/overview/what-is-saas/>

**Domain**

IaaS PaaS and SaaS

**Question 11Correct**

Which Azure Service contains pre-built machine learning models that you can use in your own code, using an API?

**Your answer is correct**

**Cognitive Services**

**App Services**

**Azure Blueprints**

**Azure Functions**

Overall explanation

Cognitive Services is an API that Azure provides, that gives access to a set of pre-built machine learning models including vision services, speech services, knowledge management and chat bots.

**Domain**

Core Azure solutions

**Question 12Correct**

An IT administrator has the requirement to control access to a specific app resource using multi-factor authentication. What Azure service satisfies this requirement?

**Azure Function**

**Azure Authentication**

**Your answer is correct**

**Microsoft Entra ID**

**Azure Authorization**

Overall explanation

You can use Microsoft Entra ID (new name for Azure AD) to control access to your apps and your app resources, based on your business requirements. In addition, you can use Microsoft Entra ID (Azure AD) to require multi-factor authentication when accessing important organizational resources.

See: <https://docs.microsoft.com/en-us/azure/active-directory/fundamentals/active-directory-whatis#which-features-work-in-azure-ad>

**Domain**

Azure Identity services

**Question 13Incorrect**

Can you give someone else access to your Azure subscription without giving them your user name and password?

**Correct answer**

**YES**

**Your answer is incorrect**

**NO**

Overall explanation

Yes, anyone can create their own Azure account and you can give them access to your subscription with granular control as to permissions

See: <https://docs.microsoft.com/en-us/azure/role-based-access-control/overview>

**Domain**

Azure management tools

**Question 14Correct**

In the context of cloud computing, how is the benefit of 'agility' best described?

**It refers to the ability to rapidly provision new resources.**

**It refers to the ability to swiftly recover from a large-scale regional failure.**

**Your answer is correct**

**It refers to the ability to quickly respond to and drive changes in the market.**

**It refers to the system's ability to easily scale up when it reaches full capacity.**

Overall explanation

The correct answer is "It refers to the ability to quickly respond to and drive changes in the market". Agility, in the context of cloud computing, refers to the ability of an organization to rapidly adapt to market and environmental changes in productive and cost-effective ways. It involves quickly adjusting and adapting strategic and operational capabilities to respond to and take advantage of changes in the business environment.

The other options, while also benefits of the cloud, do not directly align with the concept of agility. Spinning up new resources quickly (Answer 2) or growing capacity easily when full (Answer 3) relate more to the cloud's scalability and elasticity. The ability to recover from a region-wide failure rapidly (Answer 4) speaks to the cloud's resilience and disaster recovery capabilities.

While these aspects can contribute to overall business agility, they don't encapsulate the broader strategic meaning of agility - the capacity to quickly adjust to market changes, which can include shifts in customer demand, competitive pressures, or regulatory changes, among others. Hence, the ability to respond to and drive market change quickly is the most accurate answer.

See: <https://docs.microsoft.com/en-us/azure/cloud-adoption-framework/strategy/business-outcomes/agility-outcomes>

**Domain**

Benefits of cloud services

**Question 15Correct**

Which of the following is a feature of the cool access tier for Azure Storage?

**Your answer is correct**

**Much cheaper to store your files than the hot access tier**

**Cheapest option when it comes to bandwidth costs to access your files**

**Significant delays in accessing your data, up to several hours**

**Most expensive option when it comes to bandwidth cost to access your files**

Overall explanation

Cool access tier offers cost savings when you expect to store your files and not need to access them often

See: <https://docs.microsoft.com/en-us/azure/storage/blobs/storage-blob-storage-tiers?tabs=azure-portal>

**Domain**

Support options

**Question 16Correct**

Which Azure feature is specifically designed to help companies get their in-house developed code from the code repository, through automated unit testing, and onto Azure using a service called Pipelines?

**Azure Monitor**

**Virtual Machines**

**Your answer is correct**

**Azure DevOps**

**GitHub**

Overall explanation

Azure DevOps contains many services, one of which is Pipelines. Pipelines allows you to build an automation that moves code (and all related dependencies) through various stages from the development environment into deployment.

**Domain**

Core Azure products

**Question 17Correct**

True or false: Formal support is not included in private preview mode.

**Your answer is correct**

**TRUE**

**FALSE**

Overall explanation

True. Preview features are not fully ready and this phase does not include formal support.

See: <https://azure.microsoft.com/en-us/support/legal/preview-supplemental-terms/>

**Domain**

Service lifecycle in Azure

**Question 18Incorrect**

Which ways does the Azure Resource Manager model provide to deploy resources?

**Your selection is correct**

**Powershell**

**Your selection is correct**

**CLI**

**Correct selection**

**Azure Portal**

**Your selection is correct**

**REST API / SDK**

Overall explanation

Azure Resource Manager (ARM) is the deployment and management service for Azure. It provides a management layer that enables you to create, update, and delete resources in your Azure account. The ARM model allows you to work with resources in a consistent manner, whether through Azure portal, PowerShell, REST APIs/SDKs, or the Command-Line Interface (CLI).

1. Azure Portal: This is a web-based, unified console that provides an alternative to command-line tools. You can manage your Azure resources directly through a GUI.
2. PowerShell: Azure PowerShell is a module that provides cmdlets to manage Azure through Windows PowerShell and PowerShell Core. You can use it to build scripts for managing and automating your Azure resources.
3. REST API / SDK: Azure provides comprehensive REST APIs that can be used directly or via Azure SDKs available in multiple languages. This allows developers to integrate Azure services in their applications, services, or tools.
4. CLI: Azure CLI is a cross-platform command-line program that connects to Azure and executes administrative commands on Azure resources. It's designed to make scripting easy, authenticate with Azure platform, and quickly run commands to perform common administrative tasks or deploy to Azure.

Each of these methods supports the full set of Azure Resource Manager features, and you can choose the one that best fits your workflow.

See: <https://docs.microsoft.com/en-us/azure/azure-resource-manager/management/overview>

**Domain**

Core Azure components

**Question 19Correct**

Which of the following characteristics is essential for a system to be considered highly available in a cloud computing environment?

**The system must maintain 100% availability at all times.**

**The system must operate on a minimum of two virtual machines.**

**It's impossible to create a highly available system.**

**Your answer is correct**

**The system must be designed for resilience, with no single points of failure.**

Overall explanation

The correct answer is "A system specifically designed to be resilient, with no single point of failures". High availability in a system means that it is designed to operate continuously without failure for a long period of time. This is achieved by building redundancy into the system, eliminating single points of failure, and enabling rapid recovery from any failures that do occur. In other words, even if a component of the system fails, there are other components that can take over, allowing the system to continue operating seamlessly.

While high availability often aims for close to 100% uptime, the claim of maintaining 100% availability is practically unrealistic due to factors like maintenance needs and unexpected failures. Also, having a minimum of two VMs may contribute to high availability but isn't a definitive requirement — it depends on the specifics of the system architecture.

Finally, the assertion that it's not possible to create a highly available system is incorrect. There are established strategies and technologies for designing and operating highly available systems, and they are widely used in mission-critical applications across many industries.

See: <https://docs.microsoft.com/en-us/azure/virtual-machines/windows/availability>

**Domain**

Benefits of cloud services

**Question 20Correct**

True or False: Azure has the responsibility to manage the hardware in the Infrastructure as a Service model

**FALSE**

**Your answer is correct**

**TRUE**

Overall explanation

The correct answer is TRUE. In an Infrastructure as a Service (IaaS) model, the cloud service provider, in this case Microsoft Azure, is responsible for managing the underlying physical hardware. This includes servers, storage, networking hardware, and the virtualization layer. Azure ensures that these resources are available and maintained, providing capabilities like automated backup, disaster recovery, and scaling.

The customer, on the other hand, is responsible for managing the software components of the service, including the operating system, middleware, runtime, data, and applications. This arrangement allows customers to focus on their core business and application development without worrying about the physical infrastructure's procurement, management, and maintenance.

It's important to remember that the division of responsibilities may change in other service models like Platform as a Service (PaaS) or Software as a Service (SaaS), where the cloud service provider manages more layers of the technology stack. But for IaaS, the provider indeed manages the hardware, making the statement TRUE.

See: <https://azure.microsoft.com/en-us/overview/what-is-iaas/>

**Domain**

IaaS PaaS and SaaS

**Question 21Correct**

In Microsoft Azure, which tool or service allows for the organization and management of multiple subscriptions within hierarchical structures?

**Azure Active Directory**

**RBAC (Role-Based Access Control)**

**Resource Groups**

**Your answer is correct**

**Management Groups**

Overall explanation

The correct answer is **Management Groups**. In Azure, Management Groups provide a way to manage access, policies, and compliance for multiple subscriptions. They can be structured into a hierarchy for the organization's needs. All subscriptions within a Management Group automatically inherit the conditions applied to the Management Group, facilitating governance on a large scale.

**Resource Groups**, on the other hand, are containers for resources deployed on Azure. They do not provide management capabilities across multiple subscriptions.

**RBAC (Role-Based Access Control)**is a system that provides fine-grained access management to Azure resources but it doesn't inherently support the organization of subscriptions into hierarchies.

**Azure Active Directory** is a service that provides identity and access management capabilities but does not provide a direct mechanism for managing multiple subscriptions in nested hierarchies.

Hence, Management Groups is the correct answer as it directly allows for the management and organization of multiple subscriptions into nested hierarchies, which the other options do not.

See: <https://docs.microsoft.com/en-us/azure/governance/management-groups/overview>

**Domain**

Azure subscriptions

**Question 22Correct**

In the context of Azure's high availability solutions, what is the primary purpose of Azure Availability Zones?

**They are synonymous with an Azure region.**

**They serve as a folder structure in Azure used for organizing resources such as databases, virtual machines, and virtual networks.**

**They represent certain server racks within individual data centers, specifically designed by Azure for higher uptime.**

**Your answer is correct**

**They allow manual selection of data centers for virtual machine placement to achieve superior availability compared to other options.**

Overall explanation

The correct answer is: "They allow manual selection of data centers for virtual machine placement to achieve superior availability compared to other options."

Azure Availability Zones are a high availability offering that protects applications and data from datacenter failures. Each Azure region is composed of multiple datacenters, and each datacenter is essentially an Availability Zone. They are unique physical locations within a region, equipped with their own independent power, cooling, and networking.

By placing your resources across different Availability Zones within a region, you can protect your apps and data from the failure of a single datacenter. If one datacenter goes down, the resources in the other datacenters (Availability Zones) can continue to operate, providing redundancy and increasing the overall availability of your applications.

It's important to note that these zones are not the same as Azure regions (which are geographical areas containing one or more datacenters), nor are they equivalent to resource groups (which are logical containers for resources deployed on Azure). They are also not isolated to specific racks within a datacenter, but rather spread across different datacenters in a region, offering a broader scope of protection.

See: <https://docs.microsoft.com/en-us/azure/availability-zones/az-overview>

**Domain**

Core Azure components

**Question 23Correct**

What is Azure's preferred Identity/authentication service?

**Facebook Connect**

**Network Security Group**

**Your answer is correct**

**Azure Active Directory**

**Live Connect**

Overall explanation

Azure Active Directory (Azure AD) - Microsoft’s preferred Identity as a Service solution

See: <https://docs.microsoft.com/en-us/azure/active-directory/fundamentals/active-directory-whatis>

**Domain**

Azure Identity services

**Question 24Correct**

Your organization has implemented an Azure Policy that restricts the type of Virtual Machine instances you can use. How can you create a VM that is blocked by the policy?

**Subscription Owners (Administrators) can create resources regardless of what the policy restricts**

**Your answer is correct**

**The only way is to remove the policy, create the resource and add the policy back**

**Use an account that has Contributor or above permissions to the resource group**

Overall explanation

You cannot perform a task that violates policy, so you have to remove the policy in order to perform the task.

See: <https://docs.microsoft.com/en-us/azure/governance/policy/overview>

**Domain**

Azure governance methodologies

**Question 25Correct**

Which of the following characteristics of a cloud-based system primarily contributes to its elasticity?

**The system's ability to maintain availability while updates are being implemented.**

**The system's ability to withstand denial-of-service attacks.**

**Your answer is correct**

**The system's ability to dynamically increase and decrease capacity based on real-time demand.**

**The system's ability to recover automatically after a crash.**

Overall explanation

The correct answer is "The ability to increase and reduce capacity based on actual demand." This characteristic refers to the concept of **elasticity** in cloud computing. An elastic system **is one that can automatically adjust its resources** (compute, storage, etc.) in response to changing workloads and demands. This is done to ensure optimal performance and cost-effectiveness. When demand increases, the system can scale out by adding more resources, and when demand decreases, it can scale in by reducing resources, all without significant manual intervention.

The other options, while important for overall system robustness, do not define elasticity. Withstanding denial of service attacks pertains to security, maintaining availability during updates refers to zero-downtime deployment or high availability, and self-healing after a crash refers to resilience or fault tolerance. None of these are about dynamically adjusting capacity based on demand, which is the hallmark of an elastic system.

See: <https://azure.microsoft.com/en-us/overview/what-is-elastic-computing/>

**Domain**

Benefits of cloud services

**Question 26Correct**

Which of the following best describes the primary benefit of a Content Delivery Network (CDN) in a cloud computing context?

**It provides fast and inexpensive data retrieval for later use.**

**It enables temporary session information storage for web visitors, such as their login ID or name.**

**For a nominal fee, Azure will manage your virtual machine, perform OS updates, and ensure optimal performance.**

**Your answer is correct**

**It mitigates server load for static, unchanging files like images, videos, and PDFs by distributing them across a network of servers.**

Overall explanation

The correct answer, "It mitigates server load for static, unchanging files", is indeed the core benefit of a Content Delivery Network (CDN). A CDN stores copies of a website's static files on servers distributed globally. These static files could be anything that doesn't change frequently, like images, CSS, JavaScript, videos, etc. When a user visits the site, they are served these static files from the CDN server nearest to them geographically. This reduces the latency, as the data has a shorter distance to travel. Additionally, it reduces the load on the original server because the CDN handles a significant portion of the traffic. As a result, not only is the user experience improved due to faster load times, but the operational efficiency and performance of the original server are also enhanced. Therefore, CDNs are essential for sites serving large amounts of static content to a geographically dispersed user base.

See: <https://docs.microsoft.com/en-us/azure/cdn/cdn-overview>

**Domain**

Core Azure products

**Question 27Incorrect**

What type of container is used to collect log and metric data from various Azure Resources?

**Correct answer**

**Log Analytics Workspace**

**Your answer is incorrect**

**Azure Monitor account**

**Append Blob Storage**

**Managed Storage**

Overall explanation

Log Analytics Workspace is required to collect logs and metrics

See: <https://docs.microsoft.com/en-us/azure/azure-monitor/platform/manage-access>

**Domain**

Monitoring and reporting

**Question 28Incorrect**

What is the MAIN management tool used for managing Azure resources with a graphical user interface?

**Correct answer**

**Azure Portal**

**Azure Storage Explorer**

**Remote Desktop Protocol (RDP)**

**Your answer is incorrect**

**PowerShell**

Overall explanation

Azure Portal is the website used to manage your resources in Azure

See: <https://docs.microsoft.com/en-us/azure/azure-portal/azure-portal-overview>

**Domain**

Azure management tools

**Question 29Correct**

In the context of cloud computing, a virtual machine (VM) is primarily associated with which type of cloud hosting model?

**Your answer is correct**

**Infrastructure as a Service (IaaS)**

**Software as a Service (SaaS)**

**Platform as a Service (PaaS)**

Overall explanation

The correct answer is IaaS, which stands for Infrastructure as a Service. In the context of cloud computing, a virtual machine (VM) is typically provided as part of an IaaS offering. With IaaS, the provider manages the underlying physical infrastructure (like servers, network equipment, and storage), while the consumer controls the virtualized components of the infrastructure, such as the virtual machines, their operating systems, and the applications running on them.

This is contrasted with the other options. In a Platform as a Service (PaaS) model, the consumer only controls the applications and possibly some configuration settings for the application-hosting environment, but does not manage the operating system, server hardware, or network infrastructure. Similarly, in a Software as a Service (SaaS) model, the consumer only uses the software and does not control any aspect of the infrastructure or platform where the application runs.

Therefore, given that a virtual machine involves control over the operating system and applications within a cloud-managed infrastructure, it aligns with the IaaS hosting model.

See: <https://azure.microsoft.com/en-us/overview/what-is-iaas/>

**Domain**

IaaS PaaS and SaaS

**Question 30Correct**

In the context of cloud computing and Azure services, how would you define 'compute resources'?

**They include all resources listed in the Azure Marketplace.**

**Your answer is correct**

**They are resources that execute tasks requiring CPU cycles.**

**They refer exclusively to Virtual Machines.**

**They encompass Virtual Machines, Storage Accounts, and Virtual Networks.**

Overall explanation

The correct answer is "They are resources that execute tasks requiring CPU cycles".

In cloud computing, the term "compute" refers to the amount of computational power required to process a task - essentially, it's anything that uses processing power (CPU cycles) to perform operations. This includes, but is not limited to, running applications, executing scripts, and processing data.

While virtual machines (VMs) are a common type of compute resource, they are not the only type. Azure offers a wide variety of compute resources, like Azure Functions for serverless computing, Azure Kubernetes Service for container-based applications, and Azure Batch for parallel and high-performance computing tasks.

So, the definition of compute resources is broader than just VMs or certain resources listed in the Azure Marketplace. It also includes more than VMs, Storage Accounts, and Virtual Networks, as these other resources (storage and networking) have distinct roles separate from the compute resources. Storage accounts deal with data storage while virtual networks are concerned with networking aspects in Azure, not with performing tasks that require CPU cycles. Therefore, "They are resources that execute tasks requiring CPU cycles" is the most accurate answer.

See: <https://azure.microsoft.com/en-us/product-categories/compute/>

**Domain**

Core Azure products

**Question 31Correct**

Which feature of Azure Active Directory will require users to have their mobile phone in order to be able to log in?

**Your answer is correct**

**Multi-Factor Authentication**

**Advanced Threat Protection (ATP)**

**Azure Information Protection (AIP)**

**Azure Security Center**

Overall explanation

Multi-Factor Authentication (MFA) - the concept of having something additional to a “password” that is required to log in; passwords are find-able or guessable; but having your mobile phone on you to receive a phone call, text or run an app to get a code is harder for an unknown hacker to get

See: <https://docs.microsoft.com/en-us/azure/active-directory/authentication/concept-mfa-howitworks>

**Domain**

Azure Identity services

**Question 32Incorrect**

You have decided to subscribe to Azure DDoS Protection at the IP Protection Tier. This provides advanced protection to defend against DDoS attacks. What type of DDoS attack does DDoS Protection NOT protect against?

**Your answer is incorrect**

**Network (L3) level attacks**

**Transport (L4) level attacks**

**Correct answer**

**Application (L7) level attacks**

Overall explanation

The correct answer is "Application level attacks":

* **Network-level attacks** are attacks that target the network infrastructure, such as the routers and switches that connect your Azure resources to the internet. Azure DDoS Protection IP Protection Tier can protect against network-level attacks by absorbing and rerouting excessive traffic, and by scrubbing malicious traffic.
* **Transport-level attacks** are attacks that target the transport layer of the network protocol stack, such as TCP and UDP. Azure DDoS Protection IP Protection Tier can protect against transport-level attacks by absorbing and rerouting excessive traffic, and by scrubbing malicious traffic.
* **Application-level attacks** are attacks that target the application layer of the network protocol stack, such as HTTP and DNS. Azure DDoS Protection IP Protection Tier **does not** protect against application-level attacks, because it is designed to protect against network and transport-level attacks.

To protect against application-level attacks, you need to use a web application firewall (WAF). A WAF is a software appliance that sits in front of your application and filters out malicious traffic. WAFs can be configured to protect against a wide variety of application-level attacks, such as SQL injection, cross-site scripting, and denial of service attacks.

See: <https://docs.microsoft.com/en-us/azure/virtual-network/ddos-protection-overview>

**Domain**

Secure Azure Networking

**Question 33Correct**

Who is responsible for the security of the physical servers in an Azure data center?

**I am responsible for securing the physical data centers**

**Your answer is correct**

**Azure is responsible for securing the physical data centers**

Overall explanation

Azure is responsible for physical security

See: <https://docs.microsoft.com/en-us/azure/security/fundamentals/physical-security>

**Domain**

Security tools and features

**Question 34Correct**

Which major cloud provider offers the most international locations for customers to provision virtual machines and other servers?

**Amazon AWS**

**Your answer is correct**

**Microsoft Azure**

**Google Cloud Platform**

Overall explanation

Microsoft Azure offers the most extensive global coverage among major cloud providers regarding geographical regions. This allows customers to provision virtual machines, databases, and other services in various international locations closer to their user base, which can enhance performance, reduce latency, and comply with local regulations regarding data residency.

While AWS (Amazon Web Services) and GCP (Google Cloud Platform) also provide many regions globally, Microsoft Azure has distinguished itself with the broadest regional availability.

See: <https://azure.microsoft.com/en-us/global-infrastructure/regions/>

**Domain**

Core Azure components

**Question 35Correct**

Who is responsible for the security of your Azure Storage account access keys?

**Your answer is correct**

**I am responsible for securing the access keys**

**Azure is responsible for securing the access keys**

Overall explanation

Customers are responsible to secure the access keys they are given and regenerate them if they are exposed.

See: <https://docs.microsoft.com/en-us/azure/storage/common/storage-account-keys-manage>

**Domain**

Security tools and features

**Question 36Incorrect**

True or false: there are no service level guarantees (SLA) when a service is in General Availability (GA)

**Correct answer**

**FALSE**

**Your answer is incorrect**

**TRUE**

Overall explanation

False, most Azure GA services do have service level agreements

See: <https://azure.microsoft.com/en-ca/support/legal/sla/>

**Domain**

Service lifecycle in Azure

**Question 37Incorrect**

What is the basic way of protecting an Azure Virtual Network subnet?

**Your answer is incorrect**

**Azure Firewall**

**Application Gateway with WAF**

**Correct answer**

**Network Security Group**

**Azure DDos Standard protection**

Overall explanation

Network Security Group (NSG) - a fairly basic set of rules that you can apply to both inbound traffic and outbound traffic that lets you specify what sources, destinations, and ports are allowed to travel through from outside the virtual network to inside the virtual network

See: <https://docs.microsoft.com/en-us/azure/virtual-network/security-overview>

**Domain**

Azure management tools

**Question 38Correct**

True or False: Azure is a public cloud, and has no private cloud offerings

**TRUE**

**Your answer is correct**

**FALSE**

Overall explanation

The correct answer is FALSE. While Azure is indeed widely recognized as a public cloud provider, offering a vast array of services accessible via the internet on a multi-tenant basis, it does also provide private cloud capabilities.

One notable offering is Azure Stack, an extension of Azure that allows businesses to run apps in an on-premises environment and deliver Azure services in their datacenter. With Azure Stack, you get the flexibility of using Azure’s cloud capabilities while maintaining your own datacenter for privacy, regulatory compliance, or other requirements.

Additionally, Azure offers services such as Azure Private Link, which provides private connectivity from a virtual network to Azure services, and Azure ExpressRoute, a service that enables a private, dedicated network connection to Azure.

So, contrary to the statement, Azure does have private cloud offerings along with its public cloud, making the statement FALSE.

See: <https://azure.microsoft.com/en-us/overview/what-is-a-private-cloud/>

And see: <https://azure.microsoft.com/en-us/global-infrastructure/government/>

And see: <https://azure.microsoft.com/en-us/overview/azure-stack/>

**Domain**

Public Private and Hybrid cloud

**Question 39Correct**

What is Single Sign-On?

**Your answer is correct**

**The ability to use an existing user id and password to sign in other applications, and not have to create/memorize a new one.**

**When you sign in to an application, it remembers who you are the next time you go there.**

**When an application outsources (federates) it's identity service to a third-party platform**

Overall explanation

Single Sign-On - the ability to use the same user id and password to log into every application that your company has; enabled by Azure AD

See: <https://docs.microsoft.com/en-us/azure/active-directory/manage-apps/what-is-single-sign-on>

**Domain**

Azure Identity services

**Question 40Correct**

In the context of Azure's Service Level Agreement (SLA) for virtual machines, which of the following deployment strategies would offer the highest level of availability?

**Deploying two or more virtual machines within the same data center.**

**Your answer is correct**

**Deploying two or more virtual machines across different availability zones within the same region.**

**Deploying a single virtual machine.**

**Deploying two or more virtual machines within an availability set.**

Overall explanation

The correct answer is "Deploying two or more virtual machines across different availability zones within the same region".

Service Level Agreement (SLA) is a commitment by a service provider on the level of service - like uptime, performance, or other key metrics - that users can expect. Azure provides an SLA for various services, including Virtual Machines.

A single VM, even with premium storage, provides a lesser SLA compared to VMs deployed in an Availability Set or across Availability Zones. While using an Availability Set (two or more VMs in the same datacenter but across fault and update domains) provides a higher SLA than a single VM, the highest SLA is provided when two or more VMs are deployed across Availability Zones in the same region.

Availability Zones are unique physical locations within a region. Each zone is made up of one or more datacenters equipped with independent power, cooling, and networking. They are set up to be an isolation boundary - if one zone goes down, the other continues working. This distribution of VMs across zones provides high availability and resiliency, hence offering the highest SLA.

See: <https://azure.microsoft.com/en-us/support/legal/sla/virtual-machines/v1_9/>

**Domain**

Core Azure components

**Question 41Correct**

Which feature within Azure collects all of the logs from various resources into a central dashboard, where you can run queries, view graphs, and create alerts on certain events?

**Your answer is correct**

**Azure Monitor**

**Storage Account or Event Hub**

**Azure Portal Dashboard**

**Azure Security Center**

Overall explanation

Azure Monitor - a centralized dashboard that collects all the logs, metrics and events from your resources

See: <https://docs.microsoft.com/en-us/azure/azure-monitor/overview>

**Domain**

Monitoring and reporting

**Question 42Correct**

If you wanted to simply use Azure as an extension of your own datacenter, not primarily hosting anything there but using it for extra storage or taking advantage of some services, what hosting model is that called?

**Private cloud**

**Public cloud**

**Your answer is correct**

**Hybrid cloud**

Overall explanation

The correct answer is "Hybrid cloud." The scenario described in the question is a typical use case for a hybrid cloud model, which integrates private cloud or on-premises infrastructure with public cloud resources, such as those provided by Azure.

In a hybrid cloud model, businesses can keep sensitive data or critical applications on their private cloud or on-premises datacenter for security and compliance reasons while using the public cloud's vast resources for additional storage, computational power, or specific services when necessary. This not only allows for greater flexibility and scalability, but also offers potential cost savings.

In contrast, a purely public cloud model involves hosting all data and applications on a public cloud provider's infrastructure, and a purely private cloud model involves hosting everything on a business's own infrastructure or a rented, single-tenant infrastructure. The described scenario of extending an on-premises datacenter with Azure services fits best with the hybrid cloud model.

See: <https://azure.microsoft.com/en-us/overview/what-is-hybrid-cloud-computing/>

**Domain**

Public Private and Hybrid cloud

**Question 43Incorrect**

What is a primary benefit of opting for a consumption-based pricing model over a time-based pricing model in cloud services?

**Your answer is incorrect**

**It always being cheaper to pay for consumption rather than paying hourly.**

**Correct answer**

**Significant cost savings when the resources aren't needed for constant use.**

**The ability to easily predict the future cost of the service.**

**A simpler and easier-to-understand pricing model.**

Overall explanation

The correct answer is "Significant cost savings when the resources aren't needed for constant use". In a consumption-based pricing model, also known as pay-as-you-go, customers are billed only for the specific resources they use. This model provides cost-efficiency for workloads with variable usage patterns or for resources that aren't needed continuously.

When compared to a time-based pricing model, where resources are billed on a fixed schedule regardless of actual use (for example, hourly or monthly), consumption-based pricing can result in significant cost savings if the resources are not used often or their usage fluctuates.

While the other options can be true in certain cases, they aren't inherently beneficial aspects of the consumption-based model. The cost predictability can be challenging due to the variable nature of usage (Answer 1), it's not always cheaper (Answer 2) as it depends on the resource usage pattern, and the simplicity of the pricing model (Answer 4) depends on the specific terms and conditions of the service provider. Therefore, the most accurate and generalizable benefit is the potential for cost savings with infrequent or variable resource use.

See: <https://docs.microsoft.com/en-us/azure/azure-functions/functions-consumption-costs>

**Domain**

Benefits of cloud services

**Question 44Correct**

Which Azure website tool is available for you to estimate the future costs of your Azure products and services by adding products to a shopping basket and helping you calculate the costs?

**Microsoft Docs**

**Azure Advisor**

**Your answer is correct**

**Azure Pricing Calculator**

Overall explanation

Azure Pricing Calculator lets you attempt to calculate your future bill based on resources you select and your estimates of usage

See: <https://azure.microsoft.com/en-us/pricing/calculator/>

**Domain**

Azure costs

**Question 45Correct**

What is the default amount of credits that you are given when you first create an Azure Free account?

**You can create 1 Linux VM, 1 Windows VM, and a number of other free services for the first year.**

**You are given $50 per month, for one year towards Azure services**

**Azure does not give you any free credits when you create a free account**

**Your answer is correct**

**The default is US$200**

Overall explanation

There are some other benefits to a free account, but you get US$200 to spend in the first month.

See: <https://azure.microsoft.com/free>

**Domain**

Azure costs

**Question 46Correct**

Which of the following is something that Azure Cognitive Services API can currently do?

**Create text from audio**

**Translate text from one language to another**

**Your answer is correct**

**All of these! Azure can do it all!**

**Speak text in an extremely realistic way**

**Recognize text in an image**

Overall explanation

Azure can do all of them, of course.

See: <https://docs.microsoft.com/en-us/azure/cognitive-services/welcome>

**Domain**

Core Azure solutions

**Question 47Correct**

Which Azure service is meant to be a security dashboard that contains all the security and threat protection in one place?

**Azure Key Vault**

**Your answer is correct**

**Azure Security Center**

**Azure Monitor**

**Azure Portal Dashboard**

Overall explanation

Azure Security Center - unified security management and threat protection; a security dashboard inside Azure Portal

See: <https://azure.microsoft.com/en-us/services/security-center/>

**Domain**

Security tools and features

**Question 48Incorrect**

What is the name of the group of services inside Azure that hosts the Apache Hadoop big data analysis tools?

**Your answer is incorrect**

**Azure Hadoop Services**

**Correct answer**

**HDInsight**

**Azure Kubernetes Services**

**Azure Data Factory**

Overall explanation

The correct answer is HDInsight. HDInsight is Microsoft Azure's offering for hosting the Apache Hadoop big data analysis tools. Apache Hadoop is an open-source software platform that supports data-intensive distributed applications. This platform enables processing large amounts of data across clusters of computers.

Azure HDInsight is a cloud distribution of the Hadoop components from the Hortonworks Data Platform. It allows Azure users to process vast amounts of data with popular open-source frameworks such as Hadoop, Hive, HBase, Storm, and others. Additionally, the HDInsight service also supports R, Python, Scala, and .NET. So, it's not just limited to traditional Hadoop tools.

Options like 'Azure Hadoop Services' and 'Azure Data Factory' are incorrect as Azure doesn't have a service named 'Azure Hadoop Services' and 'Azure Data Factory' is a cloud-based data integration service. 'Azure Kubernetes Services' is a service for managing containerized applications, not specifically for Hadoop.

See: <https://azure.microsoft.com/en-us/services/hdinsight/>

**Domain**

Core Azure solutions

**Question 49Correct**

Which tool within Azure helps you to track your compliance with various international standards and government laws?

**Service Trust Portal**

**Your answer is correct**

**Compliance Manager**

**Azure Government Services**

**Microsoft Privacy Statement**

Overall explanation

Compliance Manager will track your own compliance with various standards and laws.

See: <https://techcommunity.microsoft.com/t5/security-privacy-and-compliance/announcing-compliance-manager-general-availability/ba-p/161922>

**Domain**

Privacy and compliance

**Question 50Correct**

Logic apps, functions, and service fabric are all examples of what model of compute within Azure?

**SaaS model**

**IaaS model**

**Your answer is correct**

**Serverless model**

**App Services Model**

Overall explanation

The correct answer is the Serverless model. Azure Logic Apps, Azure Functions, and Azure Service Fabric are all examples of serverless computing in Azure.

Serverless computing is a cloud computing model where the cloud provider automatically manages the provisioning and allocation of servers, hence the term "serverless". The serverless model allows developers to focus on writing the code and business logic rather than worrying about the underlying infrastructure, its setup, maintenance, scaling, and capacity planning.

Azure Logic Apps is a cloud service that allows developers to build workflows that integrate apps, data, services, and systems. Azure Functions is an event-driven, compute-on-demand experience that extends the existing Azure application platform with capabilities to implement code triggered by events occurring in Azure or third-party services. Azure Service Fabric is a distributed systems platform that makes it easy to package, deploy, and manage scalable and reliable microservices.

In contrast, IaaS (Infrastructure as a Service) refers to cloud-based services where you rent IT infrastructure—servers and virtual machines (VMs), storage, networks, and operating systems—from a cloud provider on a pay-as-you-go basis. SaaS (Software as a Service) is a software distribution model in which a third-party provider hosts applications and makes them available to customers over the Internet, which doesn't align with the services mentioned in the question. The App Services model is a platform for hosting web applications, REST APIs, and mobile backends, but it's not strictly serverless as it doesn't auto-scale in the same way.

See: <https://azure.microsoft.com/en-us/solutions/serverless/>

**Domain**

Core Azure solutions