- CosmosDB
  - General
    - Determine API at account-level
    - Account -> Container -> Document
  - Container max of 100,000 Rus and increment by 100Rus with 1KB per RU
  - Partitioning
    - Single partition limited to 10GB
    - Partitions limited to 400 RU
  - API
    - Cassandra
    - Gremlin
    - SQL
    - Azure Table
    - MongoDB
  - Consistency Level
    - Strong
    - Bounded Staleness
    - Session
    - Consistent Prefix
    - Eventual consistency
- Azure SQL
  - General
    - Single database, elastic pool, managed instance
    - Server is container and holder for firewall and failover settings
  - Backup
    - PIT backups done every 5-10 minutes for T Logs and 12 hours for differential
    - LTR available for all but basic for up to 10 years
    - Automated backups saved for 7 days up to 35 days (Basic limited to 7)
    - Geo-replication allows for read-only in another region
  - VCore-Based
    - Gen4 – 24vCore 168GB RAM Gen5 has more
    - General Purpose – 7000 IOPS, 1 replicate no read scale
    - Business Critical – 200,000 IOPS, 3 replicas, 1 read scale, AZ support
  - DTU
    - Basic – 5DTU, 2GB, no LTR
    - Standard – 300DTU, 250GB
    - Premium – 4000DTU, 1TB
  - Elastic DTU calculation
    - Number of databases X average DTU per database
    - Number of peaking databases X peak DTU
    - Larger of two and increment by 100 DTU

- Azure Functions
    - Windows -> Java., .NET, Javascript, PowerShell
    - Linux -> .NET, JavaScript, Python, Docker
    - App Service Plan -> manually scale or autoscale, VNet integration, > 10 minute execution
- Service Bus
    - General
        - Basic, Standard, Premium
        - Basic supports only queues and 256KB message size
        - Standard supports queues and topics
        - Premium supports georecovery, dedicated capacity, and 1024KB message size, AZ
    - Namespace
    - Topic – Message TTL, Duplicate Detection, Partitioning
    - Queue – Message TTL, Lock duration, duplicate detection, dead letter queue, sessions, high throughput (partitioning)
- Azure App Services
    - General
        - Handler mappings -> extension, handler path, arguments
        - Virtual App -> virtual directory, physical path, app checkmark
    - Plans
        - Free – 10 apps 1GB
        - Shared – 100 apps 1GB, custom domain
        - Basic – unlimited apps, 10GB, 3 isntances, functions, manual scale
        - Standard – 50GB, 10 instances, 5 deployment slots, VNET, autoscale
        - Premium – 250GB, 20 instances, clone app, 20 slots
        - Isolated – 1TB, 100 instances
    - Metrics
        - CPU %
        - Memory %
        - Data In/Data Out
        - Disk Queue Length
        - HTTP Queue Length
    - Insights
        - Metrics
        - Web tests
        - Proactive diagnostics
    - Diagnostics
        - Detailed Error Logging – HTTP 400 or >
        - Failed Request Tracing (W3SVC##) XML/XSL
        - Web Server (http/RawLogs) IIS logs
        - Application Logging
        - Deployment Logs (GIT)

- Event Grid
  - General
    - Event Sources -> Event Grid -> Event Handlers
    - Limit of 64KB
  - Handlers
    - Azure Automation
    - Azure Functions
    - Event Hub
    - Hybrid Connection
    - Logic App
    - Microsoft Flow
    - Queue Storage
    - WebHook
  - Sources
    - Azure Sub/Resource Group
    - Container Registry
    - Custom Topic
    - Event Hub
    - IoT Hub
    - Media Services
    - Service Bus
    - Storage Blob
    - Azure Map
- Azure Virtual Machines
  - Types
    - A – Dev/Test
    - B – Burstable
    - D – General Purpose
    - DC
    - E – SAP HANA
    - F – Compute
    - G – memory and storage
    - H – HPC
    - Ls – Storage
    - M – Memory
    - N - GPU
  - Storage
    - Standard HDD – 500MB 2000 IOPS
    - Standard SSD – 750MB 6000 IOPS
    - Premium SSD – 900MB 20,000 IOPS

- Azure Cost Analysis and Budgets
    - Export to CSV or Excel
    - Schedule export to storage account
- Azure Virtual Machines Scale Set (VMSS)
    - Autoscale across AZ
    - Automatic integration with Load Balancer and Application Gateway
    - Autoupdate for some image types
    - Set minimum and maximum w/ autoscale
    - Set thresholds for raise and lower vm count
- Event Hub
    - General
        - Throughput units are pre-allocated or set to a maximum
        - Basic (1 consumer group 100 connections) or Standard
        - Namespace -> Event Hub -> Consumer Group
    - Namespace Configuration
        - Support AZ
        - Set throughput units to pre-provision
        - Set auto-inflate (autoscale) an max units (up to 20)
        - Az eventhubs namespace
        - Georecovery (paired regions)
        - Firewall (Vnet/IP)
        - Create Event Hubs and configure to deliver events to Blob Storage/Data Lakes
    - Event Hub Entity
        - Enable/disable
        - Partition count
        - Message retention (7 days)