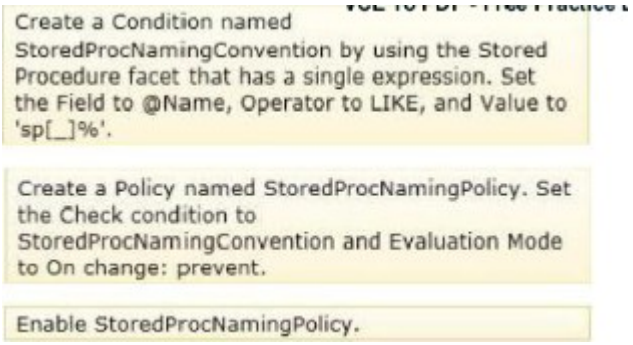
Q3 (227)
It is a contained database so the correct answer is: B and C. SQL user without login can serve for an application role user but the domain can log in with to the new instance as well because it is authenticated by the database. If we have SQL user with Password that would be a more appropriate answer for sql user log in in a contained database.

Q10 the correct answer should be



Q39
Just explanation: this is on a server role thus should be server audit, if it is on a database role it will be database audit. The server audit captures server level changes while database audit captures database level audit. If you want to be notified you will configure an alert to be sent to an email or pager ...etc.

Q42 Note:
Just a note SQL trace (Profile files saved can be replayed on another box)

Q55 Correct answer is B
https://docs.microsoft.com/en-us/sql/relational-databases/resource-governor/resource-governor-resource-pool?view=sql-server-2017

MIN_CPU_PERCENT and MAX_CPU_PERCENT
These settings are the minimum and maximum guaranteed average CPU bandwidth for all requests in the resource pool when there is CPU contention. You can use these settings to establish predictable CPU resource usage for multiple workloads that is based on the needs of each workload. For example, assume the Sales and Marketing departments in a company share the same database. The Sales department has a CPU-intensive workload with high-priority queries. The Marketing department also has a CPU-intensive workload, but has lower-priority queries. By creating a separate resource pool for each department, you can assign a minimum CPU percentage of 70 for the Sales resource pool and a maximum CPU percentage of 30 for the Marketing resource pool. This ensures that the Sales workload receives the CPU resources it requires and the Marketing workload is isolated from the CPU demands of the Sales workload. Note that the maximum CPU percentage is an opportunistic maximum. If there is available CPU capacity, the workload uses it up to 100 percent. The maximum value only applies when there is contention for CPU resources. In this example, if the Sales workload is switched off, the Marketing workload can use 100 percent of the CPU if needed.

Q66

Just a note: Replication allows you to modify the database after the replication is done. You can add index for replication but the other secondaries are read only.
If you go with the other configurations,
to optimize read-only workloads on the readable secondary replicas, you may want to create indexes on the tables in the secondary databases. Because you cannot make schema or data changes on the secondary databases, create indexes in the primary databases and allow the changes to transfer to the secondary database through the redo process.

Q77

Answer is correct but explanation is wrong

When you synchronize data rows with a large amount of data, such as rows with LOB columns , Web synchronization can require additional memory allocation and hurt performance . This occurs when the Merge Agent generates an XML message that contains too many data rows with large amounts of data . If the Merge Agent is consuming too many resources during Web synchronization, reduce the number of rows sent in a single message in one of the following ways:
Use the slow link agent profile for the Merge Agent.
Decrease the -DownloadGenerationsPerBatch and -UploadGenerationsPerBatch parameters for the Merge Agent to a value of 10 or less. The default value of these parameters is 50.
Note: Merge Agent has a "slow link" profile designed for low bandwidth connections.

How to allow merge agent to use "slow link profile" : Change Existing Agents: Select a profile (On the General page of the Distributor Properties - <Distributor> dialog box, click Profile Defaults), and then click Change Existing Agents to specify that all existing jobs for an agent of a given type should use the selected profile. For example, if you have created a number of subscriptions to a merge publication, and you want to change the profile to specify that the Merge Agent job for each of these subscriptions should use the Slow link agent profile, select that profile, and then click Change Existing Agents.

Q79

Answer is correct but explanation is off below is backup procedure.
Procedure
To specify whether scheduled backups are run on the primary or secondary replica at the availability group level:

1. Start the Management Console.
2. In the Management section of the window, click Protect Data next to the SQL Server workload.
3. Click Properties in the Actions pane.
4. Click the AlwaysOn Preferencesproperty page.
5. In the Availability group field, select theAlwaysOn Availability Group for which you want to set up backup preferences.
6. In the Preferred replica field, select which replica is the preferred replica on which to run scheduled backups.

- Select Prefer Secondary replica if you want scheduled backups to occur on a secondary replica, if it is available. Otherwise, use the primary replica for the scheduled backup.
- Select Secondary only if you want scheduled backups to occur only on a secondary replica.
- Select Primary if you want scheduled backups to occur only on the primary replica.
- Select Any replica if you want scheduled backups to occur on any availability replica.

7. For each availability replica listed in the Availability replicas list box, specify whether it is a candidate for running scheduled backups by specifying the backup priority for that replica. A value of 1 has the lowest priority, and a value of 100 has the highest priority. A value of0 indicates that the replica is excluded from schedule backup operations.
8. Click OK to save your configuration and exit the Data Protection Properties page. The settings are saved to the tdpsql.cfg file and can be replicated to the other replicas in the availability group.

Q50 and Q 80
When agent job fails and in job history the error messages returned by the job steps do not provide the required detail. The following error message is an example error message: you Expand agent logging to include information from all events. (Q50)

But when SQL Server Agent jobs fail, the error messages returned by the job steps are truncated, you configure the job output to either an out put file or table. (Q80)

Q 88
I think this question has a wrong multiple question. The answer should be Create an Extended Events session by using the sqlserver.error_reported event which is in B on Q14 and Q 256. But in the absence of this choice I will go for the next best thing which is profiler (B)

Q89
No recovery is for the restore option (had the question been which recovery model choice K makes sense(or it is true when you are doing a tail log for restore and recovery). But since the question is which backup option correct answer is Transaction log backup which is B.

Q91
Answer correct.
https://docs.microsoft.com/en-us/sql/t-sql/statements/set-transaction-isolation-level-transact-sql?view=sql-server-2017

the question says "There is high contention between readers and writers" SNAPSHOT and READ COMMITTED SNAPSHOT will not apply share locks so minimize the contention.
https://msdn.microsoft.com/en-us/library/ms173763.aspx

Second it says "need to minimize the use of the tempdb space" READ COMMITTED SNAPSHOT uses less tempdb space. https://msdn.microsoft.com/en-us/library/ms378149(v=sql.110).aspx So the answer is READ COMMITTED SNAPSHOT.

Q93 (and also same as Q110)
The only migration option I know to date are deployment through SSMS using Database Migtation Assistant and Replication. to my knowledge there is no direct backup and restore to Azure. This I would say only C.

Q96
Minimum is set to 256mb which is very law, but maximum is the default which is evetryyhing the server has, thus the answer is max server memory.

Q109

Correct answer D

Q111 answer is correct just explanation
User name is defined
Password is defined on both password path
Make sure Enforces password policy is clicked
No password expiration enforcement is unchecked
The default database is set to AdventureWorks database

Q112
Both A and B are good answers but A index will use more disk space and will create blocking. SQL Server statistics are nothing but system objects that contain vital information about the index key values and regular column values.
SQL Server uses a cost based model to choose a "good enough" execution plan as fast as possible. Cardinality estimation (estimating no. of rows to be processed on each step of the query execution) is the most important factor in query optimization which in turn affects the join strategy, memory grant requirement, worker thread selection as well as choice of indexes when accessing data.
SQL Server wont use non clustered indexes when it estimates that a large no. of KEY or RID loop up operations will be required, so it maintains statistics on indexes (and on columns) which will help in such estimations.
When particular queries do not run very often, you can select to create column-level statistics rather than an index. Column-level statistics help Query Optimizer find better execution plans, even though those execution plans are suboptimal due to the index scans involved. At the same time, statistics do not add an overhead during data modification operations, and they help avoid index maintenance. This approach works only for rarely executed queries.
The in this exercise 90% of the data does not have cuntry data or the column is null, thus only 10% of the data uses the stat, and we are told to use a minimum amount of resources, creating an index will utilize space
take a look at this pros and cons of a lab work and shared on stack overflow site.

Thingy	PROs	CONs
INDEX	Can help sorts. Contains data (can "cover" a query)	Takes up space. Needs to be maintained (extra I/O) More chances for blocking / dead-locks.
STATISTICS	Takes up very little space. Lighter maintenance / won't slow down DML operations. Does not increase chances of blocking / dead-locks.	Cannot help sorts. Cannot "cover" queries.

Q124
Correct answer is maximum degree of parallelism.

Q134
I think the best answer would be migration assistant but upgrade advisory does the same thing. But he

question says “during or after the migration”. Thus I would think B is the right answer.

Upgrade advisor: SQL Server Upgrade Advisor helps you prepare for upgrades to SQL Server 2014. Upgrade Advisor analyzes installed components from earlier versions of SQL Server, and then generates a report that identifies issues to fix either before or after you upgrade. The first time that you use Upgrade Advisor, run the Upgrade Advisor Analysis Wizard to analyze SQL Server components. When the wizard finishes the analysis, view the resulting reports in the Upgrade Advisor Report Viewer. Each report provides links to information in Upgrade Advisor Help that will help you fix or reduce the effect of the known issues.

The Data Migration Assistant (DMA) helps to upgrade to a modern data platform by detecting compatibility issues that can impact database functionality in your new version of SQL Server or of Azure SQL Database. DMA recommends performance and reliability improvements for your target environment and allows you to move your schema, data, and uncontained objects from your source server to your target server.

Q137
Note: since all the indexes are non cluster index disabling it will serve the purpose of not maintaining it while doing the insert of the build data. But disabling cluster index makes the table unacceptable.
Disabling Nonclustered Indexes vs. Disabling Clustered Indexes
Disabling a nonclustered index will deallocate the index pages – the space is freed in the database. Disabling a clustered index has additional effects. The data in the table still exists, but will be inaccessible for anything other than a drop or rebuild operation. All related nonclustered indexes and views are also unavailable. Foreign key constraints that reference the table are disabled. Queries against the table will fail.

Q142
Answer is correct but some explanations:

Like you might expect not all of the SQL Server 2106 subsystems and features are supported on Windows Server Core. The following is the list of SQL Server 2016 features that are not supported:

- Reporting Services
- SQL Server Data Tools (SSDT)
- Distributed Replay Controller
- Master Data Services
- Data Quality Services
- Client Tools Backward Compatibility
- Client Tools SDK
- SQL Server Books Online
- Management Tools – Remote Only

Q150
Answer is correct just an explanation:
Windows Azure SQL Database (previously SQL Azure) offers a unique way to make a database copy to another database using the CREATE DATABASE as COPY OF command. The copy operation is a mechanism that developers and administrators can use to clone a SQL Database instance on another

SQL Database with transactional consistency.
Note, however, that this is not a backup mechanism since the cloned database cannot be restored. In addition, once the copy operation is completed you will incur charges on the newly created database. Nevertheless, it is the only mechanism available today that creates a copy of an existing database with transactional consistency.
The exact command to run depends on whether or not you are copying a database to the same SQL Database server or to a different one. To create a new database (**new_db**) as a copy of an existing database (**current_db**) on the same server, simply connect to the master database then run the following statement:

```
CREATE DATABASE [new_db] AS COPY OF [current_db]
```

If current_db is to be created on another SQL Database server, connect to the destination server and run this command (where **source_server** is the SQL Database name where **current_db** is stored):

```
CREATE DATABASE [new_db] AS COPY OF [source_server].[current_db]
```

Q154
Answer is C correct just explanation
SQL Server Data Tools (SSDT). To download and install SSDT, s Installing SSDT lets you design and deploy SSIS packages. SSDT installs the following things:

- The SSIS package design and development tools, including SSIS Designer.
- 32-bit SSIS components only.
- A limited version of Visual Studio (if a Visual Studio edition is not already installed).
- Visual Studio Tools for Applications (VSTA), the script editor used by the SSIS Script Task and Script Component.
- SSIS wizards including the Deployment Wizard and the Package Upgrade Wizard.
- SQL Server Import and Export Wizard.

Q158
Correct answer is C process Affinity.
A little note:

- CPU affinity mask
  SQL uses all CPUs available from the operating system. It creates schedulers on all the CPUs to make best use of the resources for any given workload. When multitasking the operating system or other apps on the SQL server can switch process threads from one processor to another. SQL is a resource intensive app and so performance can be impacted when this occurs. To minimize we can configure the processors in a way that all the SQL load will be directed to a pre-selected group of processors. This is achieved using CPU Affinity Mask.

- Affinity I/O mask

The affinity I/O mask option binds SQL disk I/O to a subset of CPUs. In SQL online transactional processing (OLTP) environments, this extension can enhance the performance of SQL threads issuing I/O operations.

- Resource governor

SQL Server Resource Governor is a feature than you can use to manage SQL Server workload and system resource consumption. Resource Governor enables you to specify limits on the amount of CPU, physical IO, and memory that incoming application requests can use. Set in-terms of percentage of available resource.

Q169
The question says “where the estimated rows do not match the actual rows for SalesOrderHeader by

using an unexpected index on SalesOrderDetail" this tells us that the statistics is not up to date, the query is not using any temp db or variable tables thus the only reason for the estimated rows not muching actual is that the stat on the table is off. Thus update stat. New statistics would be useful.
The UPDATE STATISTICS command updates query optimization statistics on a table or indexed view. By default, the query optimizer already updates statistics as necessary to improve the query plan; in some cases you can improve query performance by using UPDATE STATISTICS or the stored procedure sp_updatestats to update statistics more frequently than the default updates.

Q170 Answer is correct but some note that helps

Difference between ROW_NUMBER, RANK, DENSE_RANK, NTILE
What is the difference between ROW_NUMBER, RANK and DENSE_RANK? Which one to use?
Ranking functions returns a ranking va1lue for each row either in a partition, or not. We can produce the very same result for all functions, but they have different purpose.
In SQL Server there are 4 ranking functions:
ROW_NUMBER – Returns the sequential number of a row within a partition of a result set, without any gaps in the ranking. The rank of a row is one plus the number of distinct ranks that come before the row in question.
RANK – Returns the rank of each row within the partition of a result set. The rank of a row is one plus the number of ranks that come before the row in question.
DENSE_RANK – Returns the rank of rows within the partition of a result set, without any gaps in the ranking. The rank of a row is one plus the number of distinct ranks that come before the row in question.
NTILE – Distributes the rows in an ordered partition into a specified number of groups. The groups are numbered, starting at one. For each row, NTILE returns the number of the group to which the row belongs.

http://www.madeiradata.com/difference-between-row-number-rank-dense-rank-ntile/

Q172
You administer a SQL Server 2012 server that contains a
- database named SalesDb.
- SalesDb contains a schema named Customers that has a table named Regions.
- A user named UserA is a member of a role named Sales.
- UserA is granted the Select permission on the Regions table.
- The Sales role is granted the Select permission on the Customers schema.
- The Sales role does not have the Select permission on the Customers schema.

B. DENY SELECT ON Schema::Customers FROM Sales
- UserA has the Select permission on the Regions table.

When we run the above deny on the role user a will be also denied as deny takes precedence over grant as a resut User A will also be denyied select on reageion table which is part of the Customers Schema. Therefore we need to run Revoke to remove the deny to UserA
G. REVOKE SELECT ON Object::Regions FROM UserA
Thus Answer is BG

Q173
We are doing a select all from FROM CompletedOrders if we do a table lock we could do the insert to the other table fast than page or raw lock. If the table has 1000 page and a million row for the page lock

1000 lock needs to be requested and granted where as if we do a million lock has to be requested and granted if we do row level lock. But the table level lock will be once.

Q182
Answer D is correct but needs minor correction the value to be added should be put between the day variable and the convert function the one shown as “1” below in yellow.

SELECT COUNT(*) FROM SalesOrders WHERE OrderTime >= CONVERT(DATE, GETDATE()) AND OrderTime < DATEADD(DAY, **1,**CONVERT(DATE, GETDATE()))

Q193
I can not give a correct answer for this question. Most likely there is a typo error as I no no serive called SQL Server Table Service. But
A. SQL Server Database Engine: Service is a clustered resource
B. SQL Server Agent Service: is a clustered resource
C. SQL Server Table Service I know no service with this name may be it is reporting or analysis service which are also clustered resource.

Q194
Answer is correct but some explanation.
This question is not about copying it is about moving and the only option to completely move it is detach and attach. Mirroring leaves the principal in the source server, copy database wizard copy's a database does not completely move it.

Q207: the answer is wrong. The correct answer is the one below

Q213 (and Q267)

DRAG DROP

You administer a database named SalesDb that has users named UserA, UserB, and UserC.

You need to ensure that the following requirements are met:

- UserA must be able to provide Windows login access to the database.
- UserB must be able to select, update, delete and insert data to the database tables.
- UserC must be able to create new tables and stores procedures.

You need to achieve this goal by granting only the minimum permissions required.

To which fixed database role or roles should you add the users?

Answer is wrong the correct answer should be:
Recovery model: should be Simple as RTO is 24hours so the nightly full backup is enough. No need to do point in time and thus have Tlog backup (for bulk recovery mode)
Sunday backup: Full backup
Nightly backup: Full backup (we are not given the choice of differential backup)

Q 216

Answer is wrong the correct answer should be C. Recovery model to Bulk logged. We need point in time recovery so we need Tlog backup but to make it minimal we need to change the recovery model to Bulk logged.

Q218

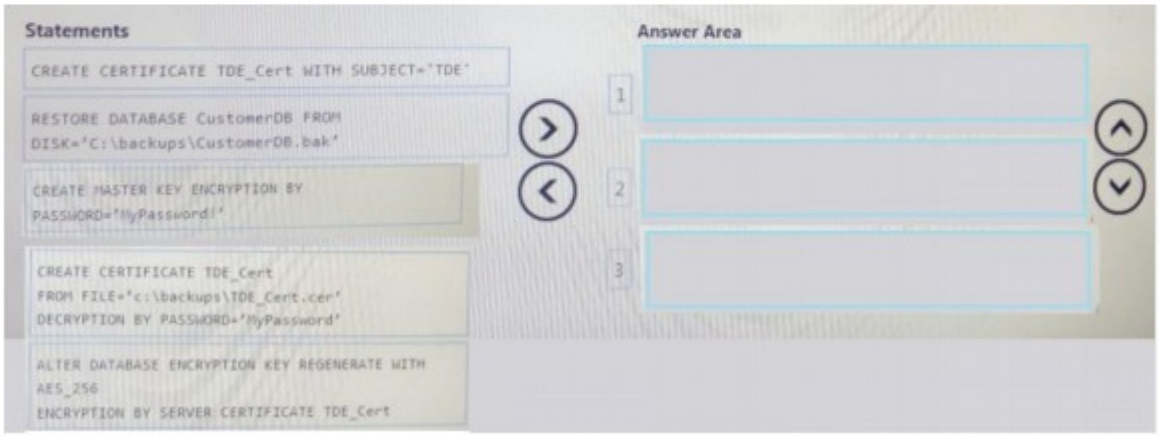
QUESTION 218
DRAG DROP
You have a SQL server database server that contains a database named CustomerDB. CustomerDB is protected by using transparent data encryption (TDE) and a certificate named TDE_cert.

The Server fails.

You deploy a new server and restore all of the backups to a folder named C:\backups.

You need to restire the database to the new server.

Which Statements should you execure in sequence?



The answer is wrong the correct answer is

1. CREATE MASTER KEY ENCRYPTION BY PASSWORD = MyPassword;
2. Create Certificate TDE_Cert From File = 'C\backup\TDE_Cert.cer" Decryption by Password ='MyPassword'
3. Restore Database CustomerDB From Disk = 'C:\backups\CustomerDB.bak'

Q235
some how is incomplete. But the answer as is might be ok

Q236
I think the multiple choice on question is wrong. Same question as Q45. Answer should be EXEC sp_who 60 which was choice A on Q45

Q250
Answer is wrong, the correct one is C. SQL (Master, Model, MSDB and TempDB are created by default while you install SQL).

Q 254 Answer is correct but just a little explanation
Dynamic management views and functions return server state information that can be used to monitor the health of a server instance, diagnose problems, and tune performance.

There are two types of dynamic management views and functions:

- •Server-scoped dynamic management views and functions. These require VIEW SERVER STATE on the server.permission on the Server.
- •Database-scoped dynamic management views and functions. These require VIEW DATABASE STATE permission on the database.

Q262 is Wrong see also Q35 (which is correct b/s the bulk insert is using Bulk Insert)
Correct answer should be for
Data Import Command = BCP
Recovery Model = Bulk- Logged
Note that on this question the data insert should be made from Windows batch file so we can not use SQL (so we could not use Bulk insert).

Just few notes regarding bulk insert and BCP

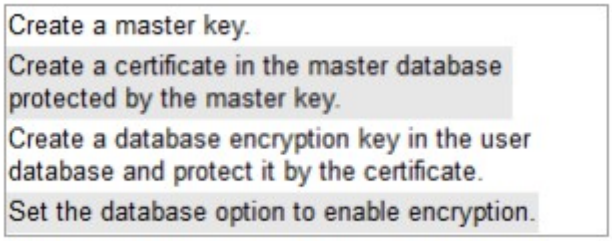
- BULK INSERT is a SQL command and BCP is a separate utility outside SSMS and you need to run BCP from DOS prompt (command prompt).
- BULK INSERT can copy data from flat file to SQL Server's table whereas BCP is for import and export both. You can copy data from flat file to SQL Server and from SQL Server to Flat file with the help of BCP.
- You can use INOUTQUERYOUT argument with BCP to import, export and conditional import and export which in not possible in BULK INSERT.
- In BULK INSERT there is no support for down level version input whereas it is possible in BCP.
- BCP has less parsing efforts and cost than BULK INSERT.
- Apart from above differences, both are almost same and give almost same performance moreover, both are single threaded, no parallel operation allowed.

Q264
The two db level setting relevant are:

the one that combat one query form
is read committed SNAPSHOT on resolves the locking of select query from blocking writing query
No locks are placed on the data when it is read, so SNAPSHOT transactions do not block other transactions from writing data. ... If you set the READ_COMMITTED_SNAPSHOT database option to ON, the database engine uses row versioning and snapshot isolation as the default, instead of using locks to protect the data.
Delayed Durability
Since the version 2014 a new option was provided to minimize the amount of time the query wait on the WRITELOG wait type. In order to solve a high WRITELOG wait type, using DELAYED_DURABILITY may be fruitful. This option was introduced in SQL Server 2014. If it seems like a disk performance related issue, it does not always mean adding faster hardware will fix this issue, so you need to be open to other ideas to solve performance problems

Q266

I would think 2 is enough (minimum). One for Mat's database one for the Vendor who could have its own SA, have full access to MSDB and Master db and also mange the agent. Also grant DBO to the



venders account. Not sure why it is 3. (I hope I am not missing something probably... if there is typo or I am misunderstanding the question).

Q268
Answer is wrong but explanation is correct. Correct Answer is D.
"Enable a disabled index by using the Transact-SQL ALTER INDEX REBUILD command."

Q271 is similar to Q 125 (Q125 answer is correct).
Answer is wrong the correct answer is
1st Enable server property contained database authentication (E)
2nd Set database containment to PARTIAL. (C)

Q274
And also choice E. Install the database server as a named instance. (Answer should be BCE). Not using default name and default port goes a long way as well.

Q275 wrong answer the correct one is
CREATE NONCLUSTERED INDEX Flndx_SpecialOfferID

ON dbo.OrderDetail(SalesOrderID)

WHERE

SpecialOfferID is not null

Q279 and Q154 are similar

Q282 wrong answer step should be

Q285 --- I have no idea :(

Q289
Answer is wrong
SQL Server Partitioned Table Creation
In order to create a partitioned table we'll need to first create a partition function and partition scheme. Now that we have a partition scheme we can go ahead and partition our table. Since our table has a clustered index defined, and assuming we are using that column for defining our partition the table we

could run the CREATE CLUSTERED INDEX statement with the DROP_EXISTING clause to partition the table. (thus dropping and recreating the clustered index will result in partitioning the table).
Finally, if you are concerned about the downtime required to perform this task and you are using SQL Server Enterprise Edition you could use the ONLINE=ON option of the CREATE INDEX statement to minimize any downtime for your application.
Correct answer I believe is
1 Create Partition function
2 Create Partition Schema
3. Rebuild cluster index
4. Rebuild the required partition

Q291

You have a two-node SQL Server 2014 cluster that has an AlwaysOn availability group configured in synchronous mode.
You plan to provide a reporting solution by using a third node in the cluster.
You need to add the third node. The solution must prevent any impact on the performance of **database writes.** You install another server that has SQL Server installed. Which three additional actions should you perform in sequence?
1st Add a new availability replica in Asynchronous mode (so we would not affect the database writes)
2nd set readable secondary to **Yes**
3rd Configure read-only routing (endpoints)

Q293

You administer a SQL Server database server that contains a database named SalesDb.
SalesDb contains a schema named Customers that has a table named Regions.
A user named UserA is a member of a role named Sales.
UserA is granted the Select permission on the Regions table.
The Sales role is granted the Select permission on the Customers schema.
You need to ensure that UserA is disallowed to select from the Regions table.
USER A gets access to the table through the role as well as personally so just denying him/her directly on the object (table) will take precedence both the for access gained through role or directly.
E. DENY SELECT ON Object::Regions FROM UserA