# Skills Being Measured

This exam measures your ability to accomplish the technical tasks listed below.The percentages indicate the relative weight of each major topic area on the exam.The higher the percentage, the more questions you are likely to see on that content area on the exam.  
  
The information after “” is intended to further define or scope the objective by describing the types of skills and topics that may be tested for the objective. However, it is not an exhaustive list of skills and topics that could be included on the exam for a given skill area. You may be tested on other skills and topics related to the objective that are not explicitly listed here.

## Installing and Configuring SQL Server 2008 (10 percent)

* **Install SQL Server 2008 and related services** - file locations, default paths, service accounts
* **Configure SQL Server instances** - sp\_configure, DMVs
* **Configure SQL Server services -**  configuration manager, SQL browser
* **Configure additional SQL Server components** - SQL Server Integration Services (SSIS), SQL Server Analysis Services (SSAS), SQL Server Reporting Services (SSRS), replication, MDS
* **Implement database mail** - setup and configure
* **Configure full-text indexing** - enable/disable, index population

## Maintaining SQL Server Instances (13 percent)

* **Manage SQL Server Agent jobs** - create and schedule jobs; notification of job execution; disable/enable jobs; change job step order; logging
* **Manage SQL Server Agent alerts** - performance condition alerts; SQL event alerts; Windows Management Instrumentation (WMI) alerts
* **Manage SQL Server Agent operators** - operator schedules; fail safe operator; add a new operator; notification methods
* **Implement the declarative management framework (DMF)** - create a policy; verify a policy; schedule a policy compliance check; enforce a policy; create a condition
* **Back up a SQL Server environment** - operating system-level concepts, SQL Server Utility, Compression media families

## Managing SQL Server Security (15 percent)

* **Manage logins and server roles -**  create logins; disable/enable logins; security model (authentication mode); password policy enforcement; fixed server roles; alter logins, create credentials, certificate logins
* **Manage users and database roles -** user mapping; user-defined roles; fixed roles; guest, public, dbo; creating and deleting user roles, application roles
* **Manage SQL Server instance permissions -**  logon triggers; permissions vs. fixed role membership; cross-database ownership chaining; impersonation, end point permissions
* **Manage database permissions -**  impersonation; cross-database ownership chaining
* **Manage schema permissions and object permissions -**  manage schema ownership, object rights
* **Audit SQL Server instances -**  use DDL triggers and logon triggers; C2; common criteria; login failures; event notifications
* **Manage transparent data encryption -**  impact of transparent data encryption on backups, certificate management, symmetric keys
* **Configure surface area -**  sp\_configure

## Maintaining a SQL Server Database (16 percent)

* **Back up databases -**  full backups; differential backups; transaction log; compressed backups; file and filegroup backups; verifying backup, TDE Backups
* **Restore databases -**  online restores; full restores; differential restores; transaction log; file and filegroup restores; verifying restore; tail of the transaction log, TDE restores
* **Manage and configure databases -**  files, file groups, and related options; database options; recovery model; attach/detach data
* **Manage database snapshots -**  create, drop, revert
* **Maintain database integrity -**  DBCC CHECKDB; suspect pages, page level restores
* **Maintain a database by using maintenance plans -**  Maintenance Plan Wizard; Maintenance Plan Designer

## Performing Data Management Tasks (14 percent)

* **Import and export data -** BCP; BULK INSERT; OPENROWSET; GUI tools
* **Manage data partitions -**  switching data from one partition to another; add a filegroup; alter a partition function; alter a partition scheme
* **Implement data compression -**  sparse columns; page/row, Unicode Compression
* **Maintain indexes -**  create spatial indexes; create partitioned indexes; clustered and non-clustered indexes; XML indexes; disable and enable indexes; filtered index on sparse columns; indexes with included columns; rebuilding/reorganizing indexes; online/offline, statistics on filtered indexes
* **Manage collations -**  column collation; database collation; instance collation

## Monitoring and Troubleshooting SQL Server (13 percent)

* **Identify SQL Server service problems -**  DB Engine service; SQL Agent service; SQL Browser service
* **Identify concurrency problems -**  blocks, locks, deadlocks, activity monitor; relevant Dynamic Management Views
* **Identify SQL Agent job execution problems -**  proxy accounts; credentials; job history
* **Locate error information -**  error log; agent log; job execution history; event logs

## Optimizing SQL Server Performance (10 percent)

* Implement Resource Governor.
* Use the Database Engine Tuning Advisor.
* Collect trace data by using SQL Server Profiler.
* Collect performance data by using Dynamic Management Views (DMVs).
* Collect performance data by using System Monitor.
* Use Performance Studio.

## Implementing High Availability (9 percent)

* **Implement database mirroring -** monitoring, configuring, failover
* **Implement a SQL Server clustered instance -**  monitoring, configuring, failover
* **Implement log shipping -**  monitoring, configuring, failover
* **Implement replication -**  monitoring, configuring