# Pre-Calculus Multiple Choice Questions - Chapter S3

**1** A normal distribution is always centered on a group or population's

**a** Mean **b** Median

**c** Mode **d** Standard Deviation

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|---|---|
| | **S3.1** |

**1** A normal distribution's width is always dependent on a group or population's

**a** Standard Deviation **b** IQR

**c** Range **d** Mean

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|---|---|
| | **S3.1** |

**2** Approximately 95% of normally-distributed data is within _____ standard deviations of the mean

**a** One **b** Two

**c** Three **d** Four

| | |
|---|---|
| | **S3.1** |

**3** The Attila Barbell Company makes bars for weight lifting. The weights of the bars are independent and are normally distributed with a mean of 720 ounces (45 pounds) and a standard deviation of 4 ounces. The bars are shipped 10 in a box to the retailers. The weights of the empty boxes are normally distributed with a mean of 320 ounces and a standard deviation of 8 ounces. The weights of the boxes filled with 10 bars are expected to be normally distributed with a mean of 7520 ounces and a standard deviation of

**a** $\sqrt{12}$ ounces **b** $\sqrt{80}$ ounces

**c** $\sqrt{224}$ ounces **d** 48 ounces

**e** $\sqrt{1664}$ ounces

| | |
|---|---|
| | **S3.1** |

# Pre-Calculus Multiple Choice Questions - Chapter S3

**1** In a normal distribution the mean is 25 and the standard deviation is 5. What is the z-score for an individual of 28?

**a** 0.4 **b** 0.6
**c** 0.8 **d** 1.2

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|---|---|
| | **S3.2** |

**2** In a normal distribution the mean is 42 and the standard deviation is 1.8. What is the z-score for an individual of 39.2?

**a** -1.56 **b** -1.79
**c** -0.89 **d** -1.22

| | |
|---|---|
| | **S3.2** |

**3** In a normal distribution the mean is 102.5 and the standard deviation is 6.52. What is the z-score for an individual of 118.6?

**a** 0.84 **b** 1.42
**c** 2.47 **d** 2.59

| | |
|---|---|
| | **S3.2** |

# Pre-Calculus Multiple Choice Questions - Chapter S3

**1** In a normal distribution with a mean of 40 and a standard deviation of 6, find the percentage of scores that are greater than 39.

**a** 0.433 **b** 0.567
**c** 0.159 **d** 0.841

| | |
|---|---|
| | **S3.3** |

**2** In a normal distribution with a mean of 40 and a standard deviation of 6, find the percentage of scores that are less than 35

**a** 0.256 **b** 0.121
**c** 0.203 **d** 0.797

| | |
|---|---|
| | **S3.3** |

**3** In a normal distribution with a mean of 40 and a standard deviation of 6, find the percentage of scores between 38 and 43

**a** 0.679 **b** 0.321
**c** 0.822 **d** 0.851

| | |
|---|---|
| | **S3.3** |

# Pre-Calculus Multiple Choice Questions - Chapter S3

**1**

| Variable | N | Mean | Median | TrMean | | St Dev | SE Mean |
|---|---|---|---|---|---|---|---|
| Score | 50 | 1045.7 | 1024.7 | 1041.9 | | 221.9 | 31.4 |

| Variable | Minimum | Maximum | Q1 | Q3 |
|---|---|---|---|---|
| Score | 628.9 | 1577.1 | 877.7 | 1219.5 |

| | |
|---|---|
| | **S3.4** |

Some descriptive statistics for a set of test scores are shown above. For this test, a certain student has a standardized score of z = -1.2. What score did this student receive on the test?

**a** 266.28
**b** 779.42
**c** 1008.02
**d** 1083.38
**e** 1311.98

**2**

| Variable | N | Mean | Median | TrMean | | St Dev | SE Mean |
|---|---|---|---|---|---|---|---|
| Score | 50 | 1045.7 | 1024.7 | 1041.9 | | 221.9 | 31.4 |

| Variable | Minimum | Maximum | Q1 | Q3 |
|---|---|---|---|---|
| Score | 628.9 | 1577.1 | 877.7 | 1219.5 |

| | |
|---|---|
| | **S3.4** |

Some descriptive statistics for a set of test scores are shown above. For this test, a certain student has a test score of 994.25. What is the student's standardized z score?

**a** -0.14
**b** -0.52
**c** -0.29
**d** -0.08
**e** -0.23

| | S3.4 |
|---|---|

**3**

| Variable | N | Mean | Median | TrMean | | St Dev | SE Mean |
|---|---|---|---|---|---|---|---|
| Score | 50 | 1045.7 | 1024.7 | 1041.9 | | 221.9 | 31.4 |

| Variable | Minimum | Maximum | Q1 | Q3 |
|---|---|---|---|---|
| Score | 628.9 | 1577.1 | 877.7 | 1219.5 |

Some descriptive statistics for a set of test scores are shown above. For this test, a certain student has a standardized score of z = 2.1. What score did this student receive on the test?

**a** 1511.69
**b** 1111.64
**c** 1491.69
**d** 1107.84
**e** 1782.42