

Algebra 2 Trig G
Stats Extra Practice

Key

2) SAT scores were originally scaled so that the scores for each section were approximately normally distributed with a mean of 500 and a standard deviation of 100. Assuming that this scaling still applies, use a table of standard normal curve areas to find the probability that a randomly selected SAT student scores:

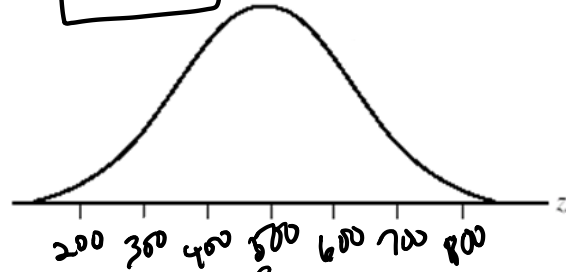
a) More than 700

$$z = \frac{700 - 500}{100} = 2 \rightarrow .9772$$

$$1 - .9772 = .0228$$

b) Less than 375

$$z = \frac{375 - 500}{100} = -1.25 \rightarrow .1056$$



3) Use a z-table to find the following.

a) The area to the left of $z = 1.88$

$$.9699$$

b) The area to the right of $z = 1.42$

$$1 - .9222 = .0778$$

c) The area to the left of $z = -0.39$

$$.3483$$

d) The area to the right of $z = -0.46$

$$1 - .3228 = .6772$$

3) Below are recorded speeds for cats and birds:

Fastest recorded speeds of various large wild cats in miles per hour:

$$2^2 + 7^2 + 7^2 + 7^2 + 7^2 + 2^2 + 3^2 + 17^2 + 33^2 = 1951$$

$\mu = 37$

Find the standard deviation (round the mean to the nearest whole number!)

$$\text{cats} = \sqrt{\frac{1951}{9}} = \sqrt{216.8} = 14.72$$

5) A set of data has a normal distribution with a mean of 29 and a standard deviation of 4. Find the percent of data within each interval.

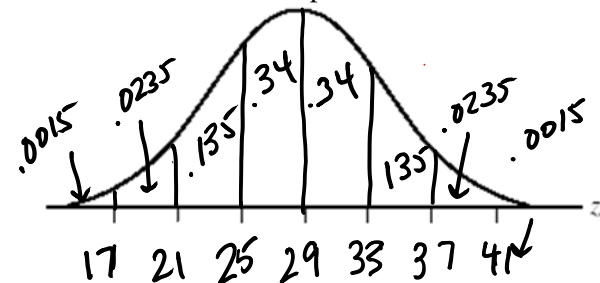
a) more than 35

$$z = \frac{35 - 29}{4} = 1.5 \rightarrow .9332$$

$$1 - .9332 = .0668$$

b) under 31

$$z = \frac{31 - 29}{4} = .5 \rightarrow .6915$$



c) greater than 26

$$z = \frac{26 - 29}{4} = -.75 \rightarrow .7734$$

$$1 - .7734 = .2266$$

d) less than 22

$$z = \frac{22 - 29}{4} = -1.75 \rightarrow .0401$$