NAME:

Empirical Rule WS

Given an approximately normal distribution with a mean of 175 and a standard deviation of 37. Draw the normal curve.

a) What percent of values are within the interval (138, 212)?

b) What percent of values are within the interval (101, 249)?

c) What percent of values are within the interval (64, 286)?

d) What percent of values outside the interval (138, 212)?

e) What percent of values are outside the interval (101, 249)?

f) What percent of values are outside the interval (64, 212)?

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Given an approximately normal distribution with a mean of 121 and a standard deviation of 40.

a) Draw a normal curve and label 1, 2, and 3 standard deviations on both sides on the mean.

b) What interval contains 68% of all values?

c) What interval contains 95% of all values?

d) What interval contains 99.7% of all values?

e) What percent of values are above 201?

f) What percent of values are below 81?

NAME:

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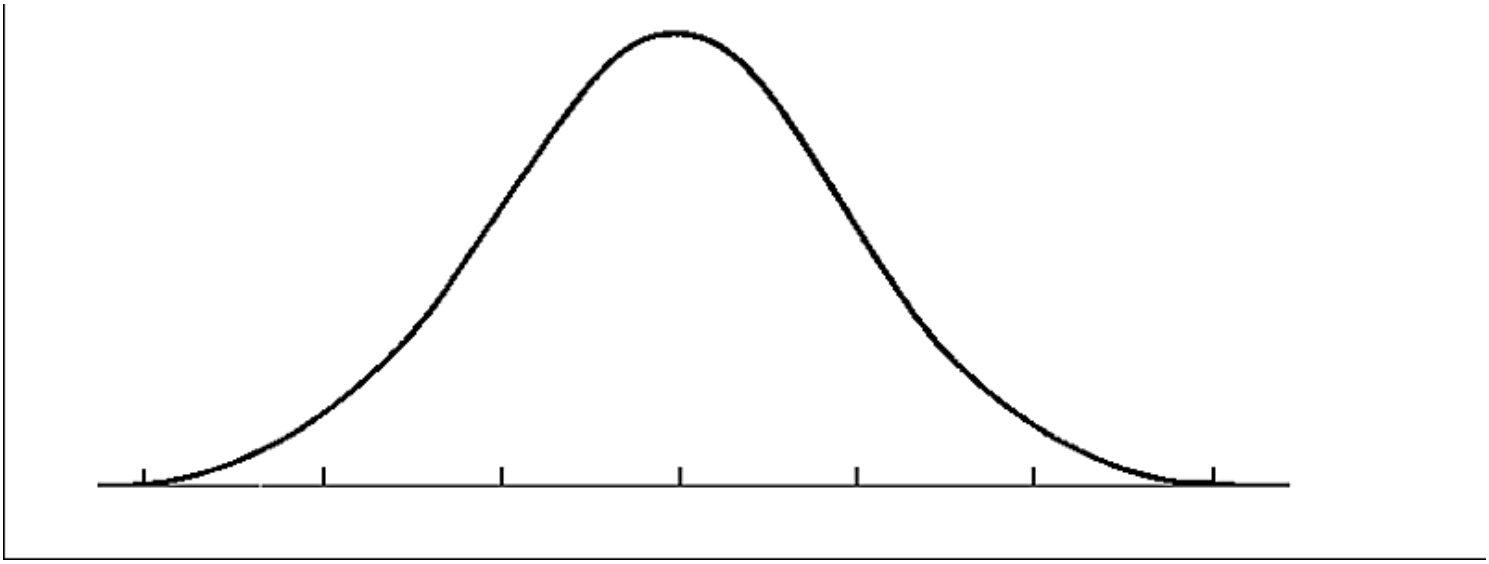
500 juniors at Central High School took the ACT last year. The scores were distributed normally with a mean of 22 and a standard deviation of 3. Label the mean and three standard deviations from the mean.



Answer the following questions based on the data:

a) What percentage of scores are between scores 16 and 28?

b) What percentage of scores are between scores 19 and 22?

c) What percentage of scores are between scores 16 and 25?

d) What percentage of scores is less than a score of 13?

e) What percentage of scores is greater than a score of 25?

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The scores for all high school seniors at Pope taking the verbal section of the Scholastic Aptitude Test (SAT) in a particular year had a mean of 490 and a standard deviation of 100. The distribution of SAT scores is bell-shaped and normally distributed. Draw the normal bell curve to support your answers.

What percentage of seniors scored between 390 and 590 on this SAT test?

One student scored 795 on this test. How did this student do compared to the rest of the scores?

A rather exclusive university only admits students who were among the highest 16% of the scores on this test. What score would a student need on this test to be qualified for admittance to this university?

The senior class at Pope has 450 students and offers a $500 scholarship to everyone that gets above a 690 on the test. What percent of students does Pope have to give the scholarship to?