

# Z-Score Practice Test

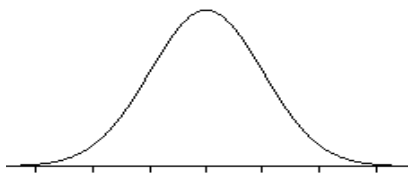
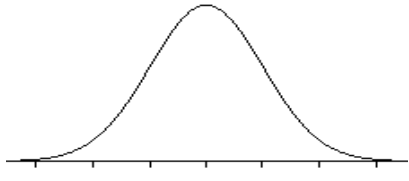
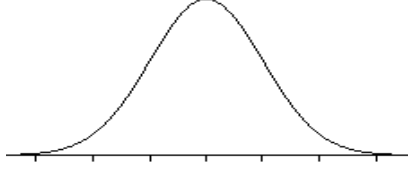
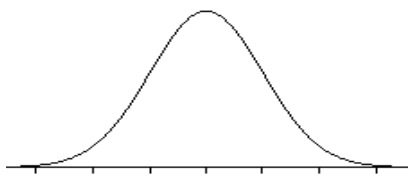
Name \_\_\_\_\_ Per. \_\_\_\_\_

Statistics-Spring 2017

Date \_\_\_\_\_

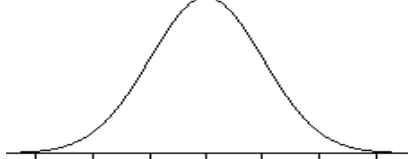
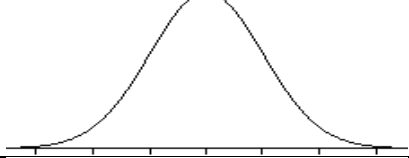
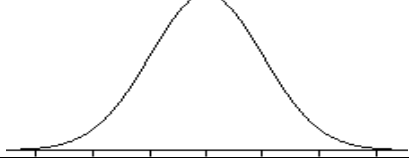
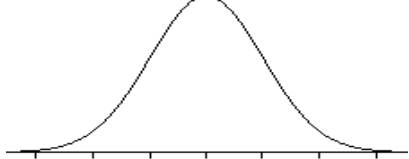
## Normal Curve~

Answers

<p>1) Nicole's score on the Stats midterm was 80 points. The class average was 75 and the SD was 5 points. What was her z-score?</p>		
<p>2) Cars currently sold in the US have an average of 135 horsepower with an SD of 40 horsepower. What is the z-score for a car with 195 horsepower?</p>		
<p>3) The average score on a Stats midterm was 75 points with an SD of 5 points. If Gregor's z-score is -2, how many points did he score?</p>		
<p>4) People with z-scores greater than 2.5 on an IQ test are considered as geniuses. If IQ tests have a score of a mean of 100 and SD of 16 points. What is the cut off score for a genius to prove himself as one?</p>		

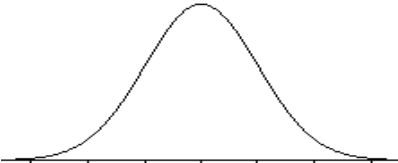
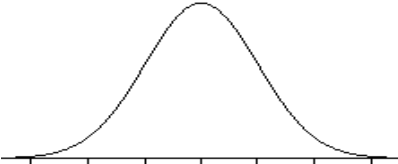
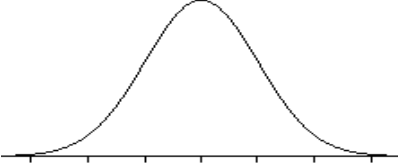
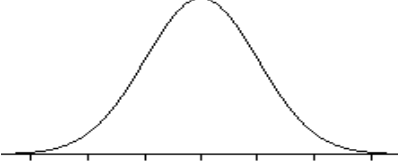


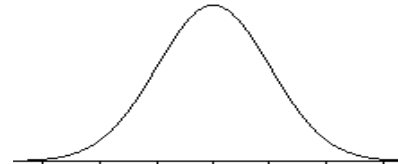
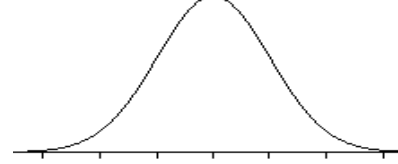
## ~Z-Table~

**Scores on the Wechsler Adult Intelligence Scale, a standard IQ test, are approximately normal for the 20 to 34 age group with  $\mu = 110$  and  $\sigma = 25$ .**

<p>5) If genius is defined by an IQ over 140, what percentage of people are considered genius?</p>		
<p>6) What percent of this age group have an IQ between 140 and 145?</p>		
<p>7) Find the 75th percentile of the IQ scores distribution of 20 to 34 year olds.</p>		
<p>8) Find the IQ score which separates the upper 75% of all IQ scores for this age group from the lowest 25%.</p>		

~Empirical Rule (68-95-99.7)~

**A new line of cars has gas mileage represented by random variable X that is normally distributed with a mean of 32 mpg with a standard deviation of 4 mpg. Use the Empirical Rule to answer the questions below.**

9) The middle 60% of cars gets between how many mpg?		
10) 25% of all cars get no more than how many mpg?		
11) Only 75% of all cars get more than how many mpg?		
12) What is the approximate probability of obtaining gas mileage between 30 and 35 mpg		
13) For any set of data with a mean of 148 and a standard deviation of 5.5, what percentile is a raw score of 100?		
14) For any set of data with a mean of 25 and a standard deviation of 2.4, what raw score would represent the 80 <sup>th</sup> percentile?		
15) For any set of data with a mean of 200 and a standard deviation of 12, what z-score would represent a raw score of 250?		
15) For any set of data with a mean of 200 and a standard deviation of 12, what z-score would represent a raw score of 250?		
16) A pharmaceutical company wants to test a new cholesterol drug. The average cholesterol of the target population is 200 mg and they have a standard deviation of 25 mg. The company wished to test a sample of people who fall between 1.5 and 3 z-scores above the mean. Into what range must a candidate's cholesterol level be in order for the candidate to be included in the study?		