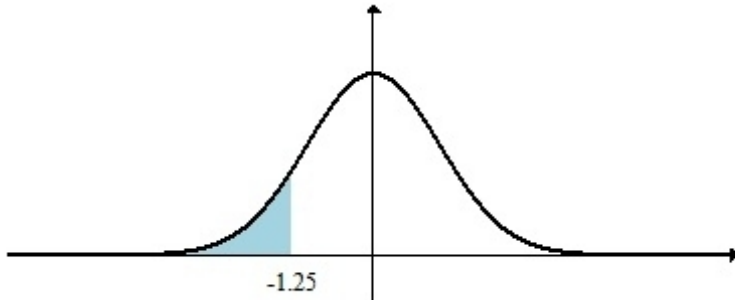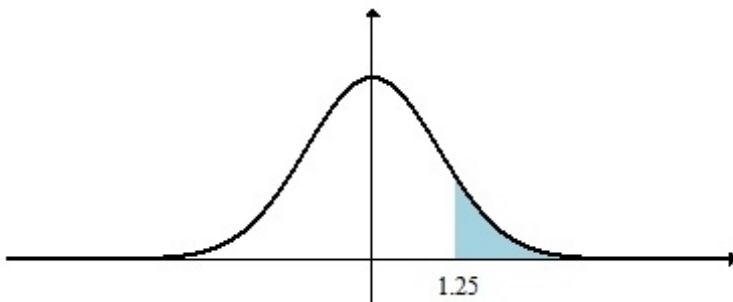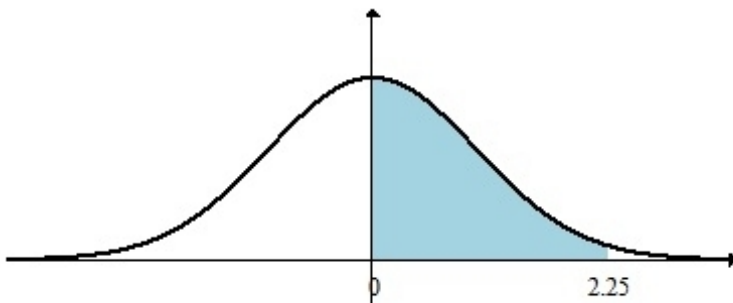Name_____

1) Find the shaded area under the standard normal curve.

-1.25

2) Find the shaded area under the standard normal curve.

1.25

3) Find the shaded area under the standard normal curve.

0   2.25

4) Find the area under the standard normal curve that lies between $z = 1.8$ and $z = 2$.

5) Find the area under the standard normal curve to the left of $z = -0.7$.

6) Find the z-score for which the area to the right is 0.07.

7) Find the area under the standard normal curve that lies outside the interval between $z = -2.2$ and $z = -1.3$.

8) Find the z-scores that bound the middle 74% of the area under the standard normal curve.

9) A bottler of drinking water fills plastic bottles with a mean volume of 994 milliliters (mL) and standard deviation 5 mL. The fill volumes are normally distributed. What proportion of bottles have volumes less than 995 mL?

10) The weights of 6-week-old poults (juvenile turkeys) are normally distributed with a mean 9.1 pounds and standard deviation 2.4 pound(s). Find the 13th percentile of the weights.

11) The weights of 6-week-old poults (juvenile turkeys) are normally distributed with a mean 8.6 pounds and standard deviation 1.9 pounds. A turkey farmer wants to provide a money-back guarantee that her 6-week poults will weigh at least a certain amount. What weight should she guarantee so that she will have to give her customer's money back only 1% of the time?

12) A sample of size 39 will be drawn from a population with mean 26 and standard deviation 14. Find the probability that $\bar{x}$ will be less than 29.

13) A certain car model has a mean gas mileage of 29 miles per gallon (mpg) with a standard deviation 5 mpg. A pizza delivery company buys 38 of these cars. What is the probability that the average mileage of the fleet is greater than 27.8 mpg?

14) The mean annual income for people in a certain city (in thousands of dollars) is 42, with a standard deviation of 38. A pollster draws a sample of 40 people to interview. What is the probability that the sample mean income is less than 35 (thousands of dollars)?

15) Use the Central Limit Theorem to find the indicated probability. The sample size is n, the population proportion is p, and the sample proportion is $\hat{p}$.

   $n = 180, p = 0.29; \ P(\hat{p} < 0.34)$

16) For a particular diamond mine, 77% of the diamonds fail to qualify as "gemstone grade". A random sample of 112 diamonds is analysed. Find the probability that more than 81% of the sample diamonds fail to qualify as gemstone grade.

1) 0.1056
2) 0.1056
3) 0.4878
4) 0.0132
5) 0.2420
6) 1.48
7) 0.9171
8) -1.13, 1.13
9) 0.5793
10) 6.39 lb
11) 4.17 lb
12) 0.9099
13) 0.9306
14) 0.1210
15) 0.9306
16) 0.1562