

Name:

Statistics

Date:

Practice Quiz 6-A

1. Carefully sketch a normal curve, label the z values -2 , -1 , 0 , 1 , and 2 , and label the area under the curve in each region. It will be graded on the following:

- a) The curve is symmetrical and mound-shaped.
- b) The x -axis is an asymptote.
- c) The z values are evenly spaced.
- d) The areas under the curve in each region are approximately to scale. For example, about 2% of the area under the curve is before $z = -2$.

2. ACT scores are normally distributed with a mean of $\mu \approx 21$ and a standard deviation of $\sigma \approx 5$.

a) Sketch a normal curve for these parameters.

b) What percentage of scores are higher than 26?

c) What percentage of scores are between $\mu - \sigma$ and $\mu + 2\sigma$?

d) What is the probability that a random score is between 11 and 31?

e) Out of 125 random scores, how many would be expected to be over 26?

3. For each problem, sketch a normal curve approximately to scale and shade the indicated area. Then estimate the size of the shaded area.

a) z is greater than 1.5.

b) z is between -2.4 and -0.1

c) z is between -4 and 4