

Name \_\_\_\_\_

**Unit 9 In-Class Review**

1. Sketch right skewed distribution
  
  
  
  
  
  
  
  
  
  
2. Sketch a symmetrical distribution
  
  
  
  
  
  
  
  
  
  
3. Sketch a left skewed distribution
  
  
  
  
  
  
  
  
  
  
4. Go back to the above distributions and state the relationship between the mean and median
5. Sketch the empirical rule
  
  
  
  
  
  
  
  
  
  
6. Given a mean of 10 and a standard deviation of 2, sketch the empirical rule.
  
  
  
  
  
  
  
  
  
  
7. Using the above sketch,
  - a) What percentage of the data is between 12 and 14?
  
  
  
  
  
  
  
  
  
  
  - b) Between what two values is the middle 95% of the data located?
  
  
  
  
  
  
  
  
  
  
  - c) What proportion of data is below 6?

8. Find the probability of ...

a.  $z > 2.7$

b.  $z < -0.04$

c.  $-1.15 < z < 3.23$

9. Given the mean of 27 and a standard deviation of 3.5, find the probability of...

a.  $x > 27.4$

b.  $x < 23$

c.  $22.5 < x < 26$

10. A bag of fun size Skittles has a mean amount of 14 Skittles and a standard deviation of 2.7. I purchased 100 fun size bags of Skittles for Halloween. **How many bags** of skittles would I expect to have...

a. More than 15 Skittles?

b. Between 13 and 16 Skittles?

c. Less than 10 Skittles?

11. Find the z score that correspond with the...

a. 25<sup>th</sup> percentile

b. 65<sup>th</sup> percentile

c. 90<sup>th</sup> percentile

d. Upper 17%

12. Taking the above z scores, find the x values given the mean is 52 and the standard deviation is 3.

a.

b.

c.

d.

## Answers

1. mean > median

2. mean = median

3. mean < median

7a) 13.5%

7b) between 6 and 14

7c)  $2.5\% = 1/40$

8a) 0.0035

8b) 0.484

8c) 0.8743

9a) 0.4562

9b) 0.1271

9c) 0.2874

10a) more than 35.57 bags

10b) between 35.57 and 77.04 bags

10c) less than 6.94 bags

11a) -0.675

11b) 0.385

11c) 1.28

11d) 0.955

12a) 49.975

12b) 53.155