

Name: \_\_\_\_\_ Hour: \_\_\_\_\_ Date: \_\_\_\_\_

## Lesson 1.9: How did Marty do on his quiz?



How did Marty do on his Intro Stats quiz relative to his peers?

Below are recent Intro Stats quiz scores in percent form.

55 57 59 60 63 65 70 72 80 81 81 83 84 85 86 88 87 89 90 93

The mean is 80 and the standard deviation is 10.

1.
  - a. Biff scored a 60 on the quiz. What percentage of the scores are less than 60?
  
  - b. Marty scored a 90 on the quiz. What percentage of the scores are less than 90?
  
2.
  - a. How far away from the mean is Biff's score of 60 and in what direction?
  
  - b. How many standard deviations is 60 away from the mean?
  
3.
  - a. How far away from the mean is Marty's score of 90 and in what direction?
  
  - b. How many standard deviations is 90 away from the mean?
  
4.
  - a. How far away from the mean is 87 and in what direction?
  
  - b. How many standard deviations is 87 away from the mean?

## Lesson 1.9 – Describing Location in a Distribution

Important ideas from the text:

  
  
  
  

### Application 1.9 Which states are rich?

The cumulative relative frequency graph and the numerical summaries below describe the distribution of household incomes in the 50 states in a recent year.



Median household income	
<i>n</i>	50
Mean	51742.44
SD	8210.642

Use the information provided to help you answer the following questions.

1. At what percentile is North Dakota, with a household income of \$55,766?
  
  
  
2. Estimate and interpret the first quartile  $Q_1$  of the distribution.
  
  
  
3. Find and interpret the standardized score (z-score) for New Jersey, with a household income of \$66,692.