

1. The number of students who attended a school dance are shown in the table below.

	9 <sup>th</sup> grade	10 <sup>th</sup> grade	11 <sup>th</sup> grade	12 <sup>th</sup> grade
Males	43	67	79	86
Females	51	75	71	84

$\frac{84}{281} \text{ female 12}^{\text{th}} \text{ graders} = .298 = 29.8\% = 30\%$

Approximately what percent of the female students who attended the dance were in the 12<sup>th</sup> grade?

- a. 15%    **b. 30%**    c. 43%    d. 49%

"of" is on bottom

2. The West Stokes Dance club has 100 members this year. Only Freshmen and Sophomores are allowed to be members to help get them involved in the school while they are still young. When this group was surveyed about their preference between free style and choreographed the results are shown as a relative frequency table.

Grade	Free Style	Choreographed	Total
Freshmen	.31 <b>31</b>	.15 <b>15</b>	<b>.46 46</b>
Sophomores	.27 <b>27</b>	.27 <b>27</b>	<b>.54 54</b>
Total	.58	.42	1.00

Which statement is true?

- a. 16 more freshmen students prefer choreographed than prefer free style.  
b. 58 students prefer choreographed  
**c. 46 of the students in the club are Freshmen**  
d. Freshmen prefer choreographed

3. Tomas is trying to decide on the best possible route to drive to work. He has a choice of three possible routes. On each day, he randomly selects a route and keeps track of whether he is late. After a 40-day trial, his notes look like this:

	Late	Not late
Route A	0.1 <b>4</b>	0.25 <b>10</b> = 14
Route B	0.075 <b>3</b>	0.175 <b>7</b> = 10
Route C	0.1 <b>4</b>	0.3 <b>12</b> = 16

- a. How many days was he late? **11** (late 4 + 3 + 4)  
b. How many days did he take route C? **16**  
c. How many more days did he take route C over route A? **2** (16 - 14)  
d. How many days was he on route B and late? **3**

4. West Manchester High School interviewed 1500 students to determine if they preferred going to the movies, going bowling, or hanging out at home with their friends on the weekend. What is the relative frequency of freshmen participating in the survey is 275 freshmen ballots were collected?

- a. .18**    b. 5.45    c. 275    d. 1500

$\frac{275}{1500} \text{ part (freshmen) / total (total students)} = .18333$

*you would want time when the "most" traffic would be*

5. If you were going to open a lemonade stand on your street, what would be the best measure of data to use when deciding to run your stand in relation to the number of cars passing per hour?

a. Median

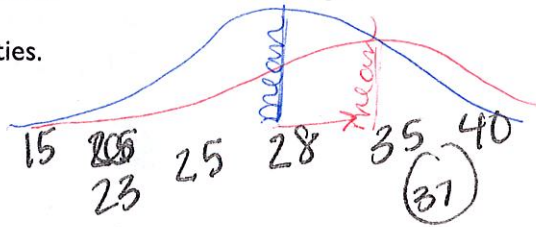
**b. Mode**

c. Mean

d. Range

6. The table below shows the population of several cities.

City	Population
Canton	25000
Francis	28000
Elmsville	35000
Playton	15000
Germanson	40000
Abbeysville	23000



What would happen to the data set if Tinkerton, with a population of 50000, was added to the data?

a. The standard deviation decreases

b. The interquartile range decreases

**c. The mean increases**

d. The range decreases

7. The table below shows the area of several states.

State	Area (thousands of square miles)
Connecticut	6
Georgia	59
Maryland	12
Massachusetts	11
New Hampshire	9
New York	54
North Carolina	54
Pennsylvania	46

*6 9 11 12 46 54 54 59*  
*(57)*

Iowa has an area of 57,000 square miles. Which is **not true** if Iowa is included in the data set?

a. The mean increases

**b. The range increases**

*Range Does not change*

c. The interquartile range increases

d. The standard deviation increases.

*45 48 52 57 58 60 63 71 72 80*  
*(46) (58) (72) (85)*

8. The number of points scored by a basketball team in the first 10 games of the season is shown below.

52, 48, 60, 58, 72, 63, 80, 45, 57, 71

What would happen to the data distribution if the team scored 72, 58, 46, and 85 in their next 4 games?

a. The standard deviation would decrease.

**b. The range would increase.**

*originally 45 → 80 to 45 → 85*

c. The mean would increase.

d. The data would remain the same because they have scored these amounts before.



9. The number of points scored by a basketball player in the first eight games of a season are shown below.

15, 35, 18, 30, 25, 21, 32, 16

original  
new  
15 16 18 21 25 30 32 35

What would happen to the data distribution if she scored 4 and 8 points in her next two games?

- a. The data distribution would become less peaked and more widely spread.
- b. The data distribution would become less peaked and less widely spread.
- c. The data distribution would become more peaked and less widely spread.
- d. The data distribution would become more peaked and more widely spread.

10. The following data are prices for ugly Christmas sweaters.

97 85 68 125 45 100 60 125 76 130 125 85 75

Find the following information:

- a. Mean  $92$   $\text{Add} = 1196$   $\text{number } 13$
- b. Median  $85$   $71.5$   $Q1$   $\# \text{ in the middle}$
- c. Mode  $125$   $\text{occurs } 3 \text{ times}$
- d) Range:  $85$   $130 - 45$   $\text{high} - \text{low}$
- e) IQR  $53.5$   $Q3 - Q1$   $125 - 71.5$

11. The table below shows the number of tickets sold to each age group for two movies.

	Adult	Child	Senior Citizen
Movie Y	80	35	24
Movie Z	115	6	32

Add = 139 } Total tickets  
Add = 153 }

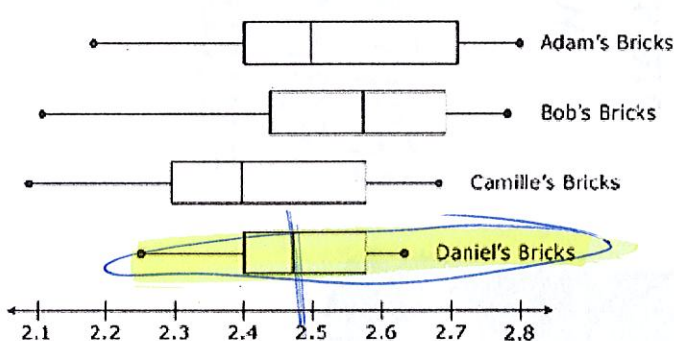
Approximately what percent of the ticket sales were senior citizen tickets to movie Z?

- a. 8%
- b. 11%
- c. 21%
- d. 57%

$\frac{32}{292} = .1095$   
 $= 10.9\%$   
 $= 11\%$

12. Box plots for four competing brick manufacturers are shown below:

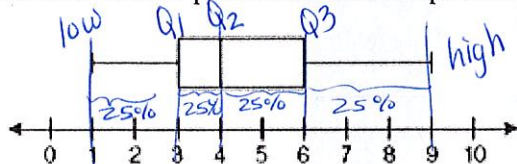
Heights of Manufacturer's Bricks



A contractor needs to buy bricks that are each as close to 2.5 inches high as possible. Which manufacturer would be the contractor's best choice?

- a. Adam's Bricks
- B. Bob's Bricks
- C. Camille's Bricks
- D. Daniel's Bricks

13. A movie theater recorded the number of tickets sold daily for a popular movie during the month of June. The box and whisker plot shown below represents the data for the number of tickets sold, in hundreds.



Which conclusion can be made using this plot?

- a. The second quartile is 600
- b. The mean of the attendance is 400 - median
- c. The range of attendance is 300 to 600, 100 - 900
- d. Twenty-five percent of the attendance is between 300 and 400.

14. A white water raft can hold a maximum of 1000 pounds. What would be the best measure of the people's weight to know if an entire party can go on a white water trip?

Get an "average" weight and times by number of people could estimate if party could go.

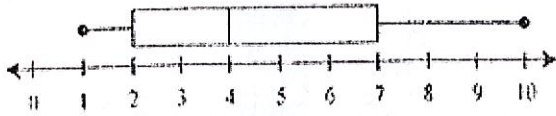
a. Median

b. Mode

c. Mean

d. Range

15. A box plot is shown below:



Which set of data can be represented by the box plot?

- a. 1, 2, 3, 4, 6, 7, 10
  - b. 1, 2, 4, 4, 6, 8, 10
  - c. 2, 3, 3, 3, 4, 5, 7, 7, 7, 10 - doesn't have low of 1.
  - d. 1, 1, 2, 2, 3, 3, 4, 5, 6, 7, 8, 9, 10
- Handwritten notes: Q1 is 2, Q3 is 7.5.

16. Listed below are the ages of people on a playground one afternoon:

2, 2, 3, 4, 5, 5, 5, 5, 5, 5, 6, 6, 6, 6, 7, 7, 7, 7, 8, 8, 10, 12, 15, 25, 36, 37, 37, 37

Which histogram *best* represents the data?

