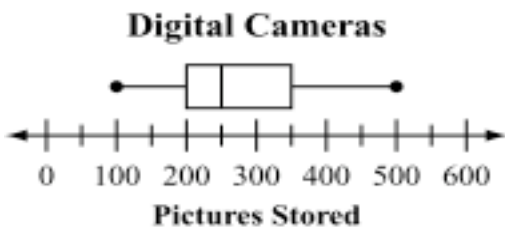


MCAS Review - Data, Statistics, Probability 5B

Multiple Choice

Identify the choice that best completes the statement or answers the question.

- _____ 1. The box-and-whisker plot below shows the numbers of pictures that can be stored on different digital cameras.



What is the median number of pictures that can be stored?

- | | |
|--------|--------|
| a. 250 | c. 350 |
| b. 300 | d. 400 |

- _____ 2. The table below shows the ticket costs for seats in different sections of a stadium.

Ticket Costs for Stadium Seats

Section	Ticket Cost per Seat
main	\$75
lower deck	\$59
upper deck	\$42
bleacher	\$22

What is the greatest number of bleacher seat tickets that can be bought for the cost of 12 lower deck seat tickets?

- | | |
|-------|-------|
| a. 22 | c. 42 |
| b. 32 | d. 52 |

_____ 3. The circle graph below shows information about the budget for a school party.



The total budget for the party is \$1500. What is the total dollar amount in the budget for entertainment?

- a. \$300
- b. \$450
- c. \$500
- d. \$1050

_____ 4. The price per pound of each kind of vegetable sold at a farmers' market is shown in the table below.

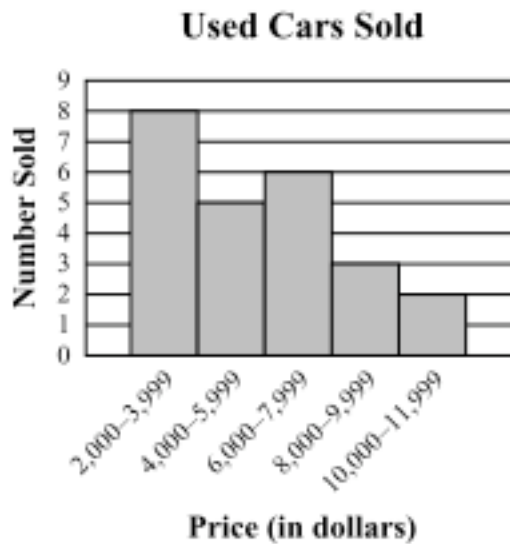
Prices per Pound (\$)

0.95	0.70	1.25	1.49
1.49	0.95	0.95	1.25
1.20	1.99	1.99	1.49
0.45	1.49	1.25	0.60

What is the mode of the prices per pound for the vegetables?

- a. \$0.95
- b. \$1.25
- c. \$1.49
- d. \$1.99

- _____ 5. The histogram below shows the relationship between the price of a used car and the number of used cars sold.



Based on the histogram, which statement **must** be true? .

- | | |
|------------------------------------------------|-----------------------------------------------------|
| a. No used car sold for \$7,000 | c. The most expensive used car sold for \$11,999 |
| b. Exactly 5 of the used cars sold for \$4,000 | d. Most of the used cars sold for less than \$6,000 |

- _____ 6. Jane played in 12 basketball games.

- For her first 8 games, the mean number of points she scored per game was 11.
- For her last 4 games, the mean number of points she scored per game was 15.

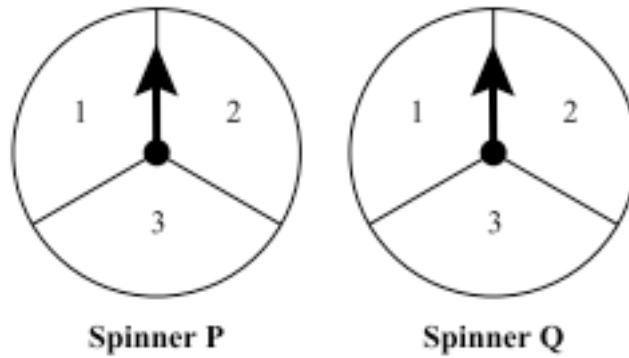
What was the total number of points Jane scored in all 12 games?

- | | |
|--------|--------|
| a. 148 | c. 228 |
| b. 156 | d. 312 |

Name: _____

ID: A

____ 7. Spinners P and Q shown below are divided into congruent sections.

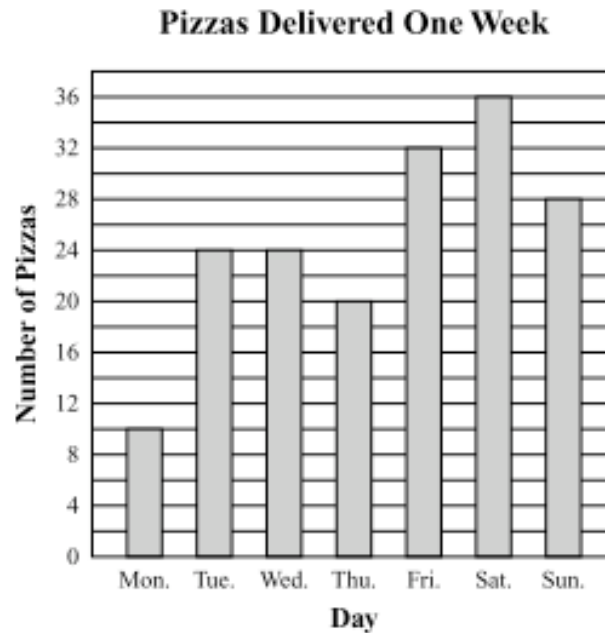


The arrow on each spinner will be spun once. The number in the section where the arrow stops on Spinner P will be added to the number in the section where the arrow stops on Spinner Q.

What is the probability that the sum of the two numbers will be 5?

- a. $\frac{1}{9}$
- b. $\frac{2}{9}$
- c. $\frac{1}{3}$
- d. $\frac{2}{3}$

- _____ 8. The bar graph below shows the number of pizzas a restaurant delivered each day during one week.



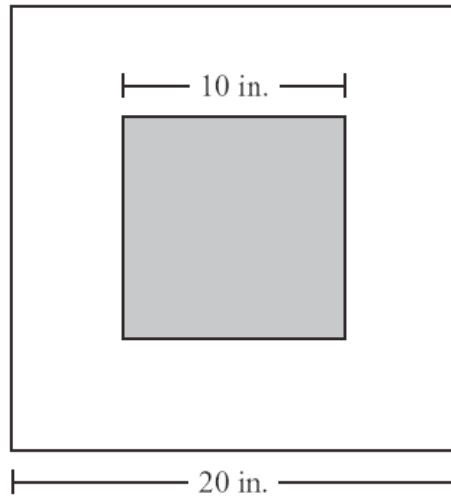
What is the range of the numbers of pizzas delivered during the week? .

- a. 18
b. 20
c. 24
d. 26
- _____ 9. Leroy will arrive at Gary's house at a time between 2 p.m. and 4 p.m. this afternoon. At 2 p.m., Gary will begin to watch a two-hour television program. There are 15 minutes of commercials scheduled to be shown during each hour of the program.

Assuming that Leroy's arrival time at Gary's house will be random, what is the probability that Leroy will arrive during a commercial?

- a. $\frac{1}{3}$
b. $\frac{1}{4}$
c. $\frac{1}{8}$
d. $\frac{1}{16}$

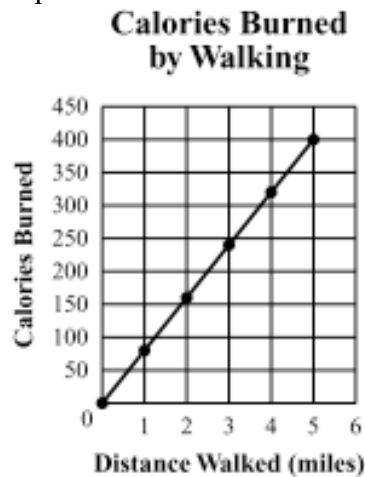
_____ 10. The diagram below shows a small, shaded square inside a larger square.



A point is located at random inside the larger square. Based on the dimensions in the diagram, what is the probability that the point will be inside the small, shaded square?

- a. $\frac{3}{4}$
- b. $\frac{2}{3}$
- c. $\frac{1}{2}$
- d. $\frac{1}{4}$

_____ 11. The graph below shows the relationship between distance walked and number of calories burned.

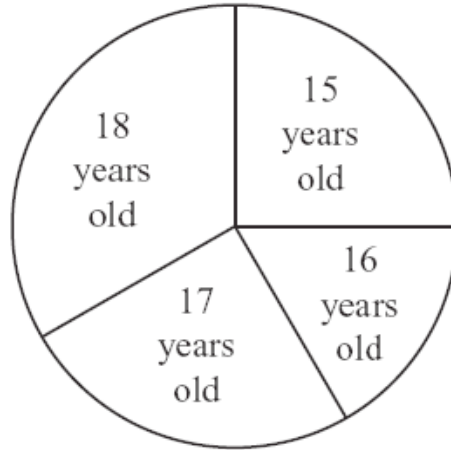


Based on the graph, which of the following is closest to the number of calories that are burned by walking 1.5 miles?

- a. 8
- b. 120
- c. 160
- d. 240

_____ 12. The circle graph below shows the distribution of the ages of 24 team members.

Ages of Team Members

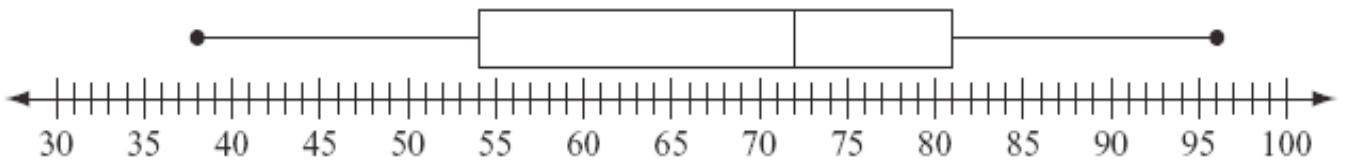


What is the median age, in years, of the team members?

- a. 15
- b. 16
- c. 17
- d. 18

_____ 13. The box-and-whisker plot below shows the distribution of the daily high temperatures, in degrees Fahrenheit, in the town of Clifton during the year 2004.

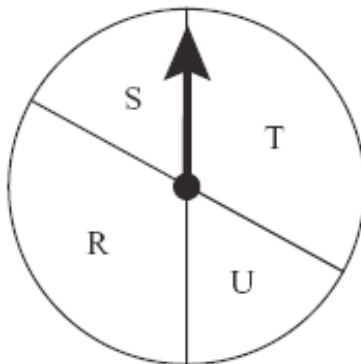
Daily High Temperatures (in degrees Fahrenheit)



Based on the box-and-whisker plot, in which of the following intervals of temperatures is it most likely that exactly 50% of the daily high temperatures are located?

- a. 38°F to 54°F
- b. 38°F to 81°F
- c. 54°F to 72°F
- d. 54°F to 81°F

- _____ 14. On the spinner shown below, the sizes of the sections are as follows:
- Sections S and U are equal in size.
 - Sections R and T are equal in size.
 - The size of section S is half the size of section T.



If Darryl spins the arrow one time, what is the probability that it will land on section S?

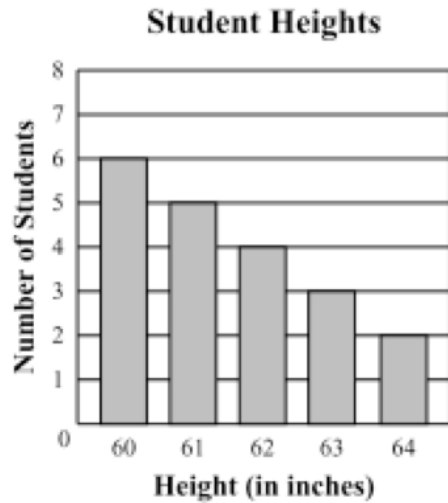
- a. $\frac{1}{6}$ c. $\frac{1}{3}$
- b. $\frac{1}{4}$ d. $\frac{1}{2}$
- _____ 15. Jeremy calculates his car's gas mileage every time he buys gas for his car. The chart below shows the data from the last 5 times he bought gas.

Gas Mileage for Jeremy's Car

Miles	Gallons of Gas	Gas Mileage (miles per gallon)
370	11.3	32.74
352	9.5	37.05
303	8.9	34.04
298	9.7	30.72
398	11.2	35.54

- a. 2.80 miles per gallon c. 4.82 miles per gallon
- b. 4.31 miles per gallon d. 6.33 miles per gallon

- _____ 16. A teacher recorded the height of each student in a class. The bar graph below shows the number of students at each height.



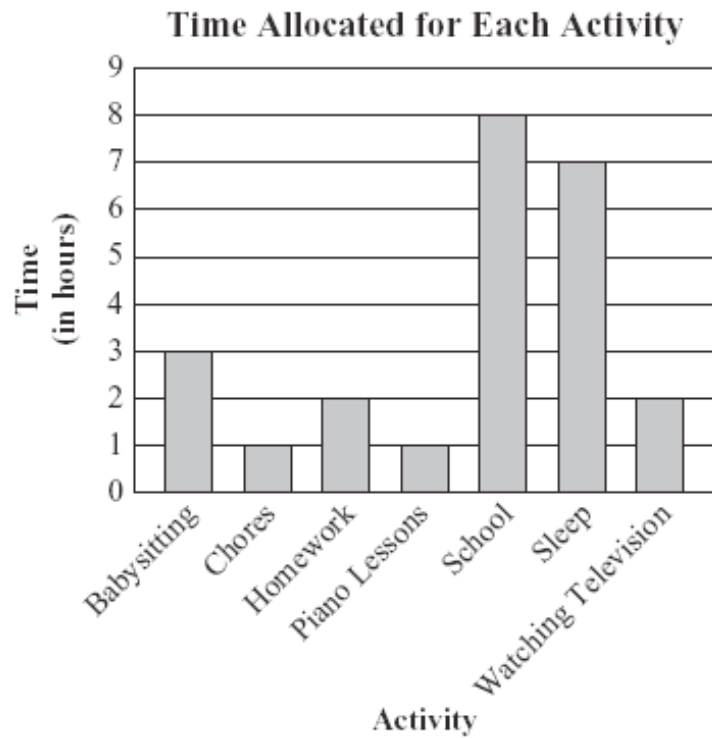
Which statement about the data in the bar graph is true?

- a. The mean is greater than the mode.
- b. The median is greater than the mean.
- c. The median is the middle number on the vertical axis.
- d. The mode is the largest number on the horizontal axis.

Name: _____

ID: A

_____ 17. Justin drew the bar graph below to represent the time he allocated for each activity during one school day last week.



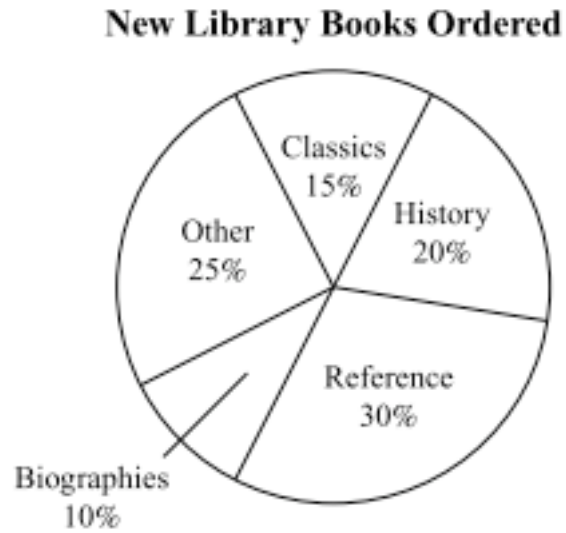
Based on the data in the graph, which of the following best represents the ratio of the time Justin allocated for homework to the time he allocated for school?

- a. $\frac{1}{4}$
- b. $\frac{5}{12}$

- c. 4
- d. 10

Short Answer

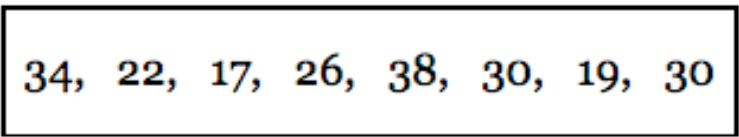
18. The circle graph below shows the types of new books a librarian ordered.



The librarian ordered 40 biographies. What is the number of history books the librarian ordered?

Answer: _____

19. The gas mileage, in miles per gallon, for each of eight cars is shown in the box below.

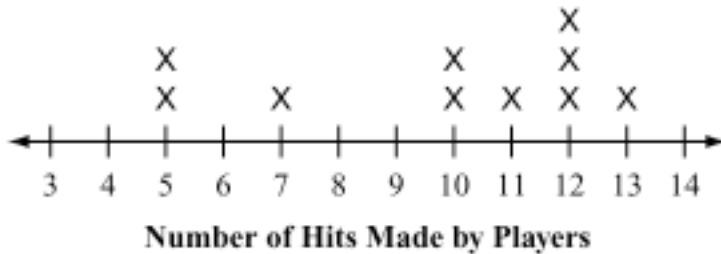


What is the median gas mileage, in miles per gallon, of the cars?

Answer: _____

Open Response

20. The line plot below shows the number of hits made by each of 10 players on a baseball team during batting practice.



- a. What was the mode of the numbers of hits made by the players? Show or explain how you got your answer.
- b. What was the median number of hits made by the players? Show or explain how you got your answer.
- c. What was the mean number of hits made by the players? Show or explain how you got your answer.

Two additional players arrived at practice. The number of hits made by each additional player was included in the line plot with the following results:

- The median number of hits increased.
- The mode of the numbers of hits remained the same.

- d. What could be the number of hits made by each of the two additional players? Show or explain how you got your answer.

MCAS Review - Data, Statistics, Probability 5B

Answer Section

MULTIPLE CHOICE

- | | | |
|------------|--------|----------------------------------------------------------------------------|
| 1. ANS: A | PTS: 1 | |
| 2. ANS: B | PTS: 1 | |
| 3. ANS: B | PTS: 1 | |
| 4. ANS: C | PTS: 1 | |
| 5. ANS: D | PTS: 1 | |
| 6. ANS: A | PTS: 1 | |
| 7. ANS: B | PTS: 1 | |
| 8. ANS: D | PTS: 1 | |
| 9. ANS: B | PTS: 1 | |
| 10. ANS: D | PTS: 1 | |
| 11. ANS: B | PTS: 1 | NOT: March Retest |
| 12. ANS: C | PTS: 1 | |
| 13. ANS: D | PTS: 1 | |
| 14. ANS: A | PTS: 1 | |
| 15. ANS: D | PTS: 1 | |
| 16. ANS: A | PTS: 1 | STA: 6.SP.B.5 |
| | | NOT: Calculator session; MHS scored 13 points lower than the state in 2013 |
| 17. ANS: A | PTS: 1 | |

SHORT ANSWER

18. ANS:
Answer: 80
- PTS: 1 NOT: No Calculator, March Retest
19. ANS:
Answer: 28 miles per gallon
- PTS: 1 NOT: No Calculator, March Retest

ESSAY

20. ANS:
Scoring Guide - Score Point 4

The student response demonstrates an exemplary understanding of the Data Analysis, Statistics, and Probability concepts involved in interpreting an appropriate graphical representation for a set of data and using appropriate statistics to communicate information about the data. The student interprets a line plot to calculate the mode, median, and mean of a data set and determines how the mode and median change when additional data is added to the set.

Scoring Guide - Score Point 3

The student response demonstrates a good understanding of the Data Analysis, Statistics, and Probability concepts involved in interpreting an appropriate graphical representation for a set of data and using appropriate statistics to communicate information about the data. Although there is significant evidence that the student was able to recognize and apply the concepts involved, some aspect of the response is flawed. As a result the response merits 3 points.

stipline

Scoring Guide - Score Point 2

The student response demonstrates fair understanding of the Data Analysis, Statistics, and Probability concepts involved in interpreting an appropriate graphical representation for a set of data and using appropriate statistics to communicate information about the data. While some aspects of the task are completed correctly, others are not. The mixed evidence provided by the student merits 2 points.

stipline

Scoring Guide - Score Point 1

The student response demonstrates only minimal understanding of the Data Analysis, Statistics, and Probability concepts involved in interpreting an appropriate graphical representation for a set of data and using appropriate statistics to communicate information about the data.

stipline

Scoring Guide - Score Point 0

The student response contains insufficient evidence of an understanding of the Data Analysis, Statistics, and Probability concepts involved in interpreting an appropriate graphical representation for a set of data and using appropriate statistics to communicate information about the data to merit any points.

PTS: 1

NOT: No calculator