WALDEN GREEN MONTESSORI

6th Year Math Task Cards

Unit 5 - Statistics & Probability (SP)

Directions:

1) Locate the assigned “Math Task Cards” from this unit
2) If needed, use a material or whiteboard to help you solve the problems
3) Record all answers in your “Math Task Journal”
4) When you have completed all 20 Task Cards, you may self-correct using the Answer Key
5) If you get a problem wrong, circle it with a highlighter or marker

16-20 CORRECT	11-15 CORRECT	0-10 CORRECT
EXCELLING	ACHIEVING	DEVELOPING
WOW - WAY TO GO!	YOU’RE GETTING CLOSE!	NOT YET - KEEP TRYING!

1 Is this a statistical question? (Yes/No)

What are the lengths of the fish in the lake?

6.SP.1

2 Is this a statistical question? (Yes/No)

How many miles does your principal drive to school?

6.SP.1

3 Is this a statistical question? (Yes/No)

What did the students in your class score on the last math test?

6.SP.1

4 Is this a statistical question? (Yes/No)

What is the most popular type of doughnut at your neighborhood grocery store?

6.SP.1

5 Is this a statistical question? (Yes/No)

How much will Lance's mowing service charge to mow my lawn?

6.SP.1

6 Is this a statistical question? (Yes/No)

How many ounces of plastic does each American family recycle each week?

6.SP.1

7 Is this a statistical question? (Yes/No)

What will three gallons of gasoline cost at the gas station on the corner?

6.SP.1

8 Is this a statistical question? (Yes/No)

How tall are each of the students in your school?

6.SP.1

9 Is this a statistical question? (Yes/No)

How much pizza does each student in your school eat in a year?

6.SP.1

10 Is this a statistical question? (Yes/No)

How many children does each family in your town have?

6.SP.1

11 Is this a statistical question? (Yes/No)

How many children does the President of the United States have?

6.SP.1

12 Is this a statistical question? (Yes/No)

How many task cards are in this set?

6.SP.1

13 Is this statement true or false?

A statistical question is answered by a distribution of results.

6.SP.1

14 Is this statement true or false?

A statistical question is any question that has a numeric answer.

6.SP.1

15 Is this statement true or false?

A question answered by a single value is a statistical question.

6.SP.1

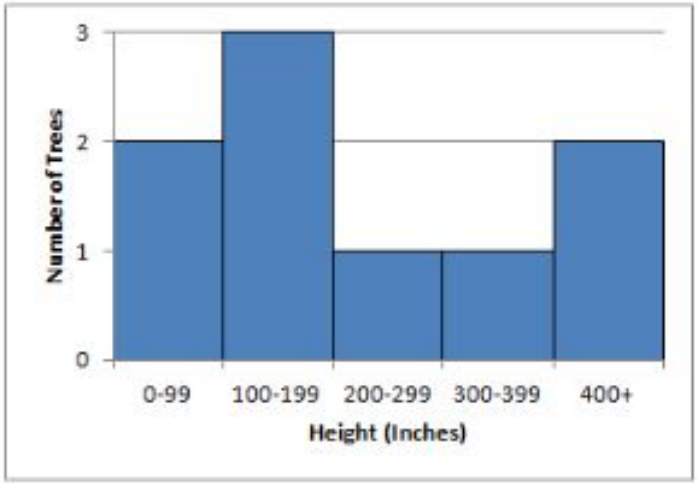
16 Is this statement true or false?

A question answered by a graph is likely a statistical question.

6.SP.1

17

True or false:
This graph displays statistical data.



6.SP.1

18

Is this statement true or false?

A survey taken by each student at school asks for the weight of the person filling it out. The resulting data is considered to be statistical.

6.SP.1

19

Is this statement true or false?

A survey taken by each student at school asks for the favorite color of the person filling it out. The resulting data is considered to be statistical.

6.SP.1

20

Is this statement true or false?

Statistical questions are too hard for sixth graders to understand.

6.SP.1

6.SP.1 Task Cards

ANSWER KEY

1. **yes**	2. **no**	3. **yes**	4. **no**
5. **no**	6. **yes**	7. **no**	8. **yes**
9. **yes**	10. **yes**	11. **no**	12. **no**
13. **true**	14. **false**	15. **false**	16. **true**
17. **true**	18. **true**	19. **true**	20. **false**

1

A distribution is:

a) a set of values that satisfies a statistical question.

b) the minimum and maximum values of a set of numbers.

c) the average value in a data set.

d) a single value in a bigger set of numbers.

6.SP.2

2

The center of a distribution is:

a) always the middle point on the x-axis.

b) always the middle point on the y-axis.

c) the number that appears most often.

d) the average.

6.SP.2

3

The spread of a distribution:

a) defines its midpoint.

b) describes the variability of the data.

c) equals the median plus the mean.

d) tells how many points there are.

6.SP.2

4

The shape of a distribution is:

a) a measure of its variability.

b) the median.

c) how it looks when graphed.

d) the biggest number minus the smallest number, all divided by 2.

6.SP.2

5

The "mean" of a dataset best describes the dataset's _____.

a) shape
b) spread
c) distribution
d) center

6.SP.2

6

The "variation" of a dataset relates to the _____ of the data.

a) shape
b) spread
c) distribution
d) center

6.SP.2

7

The collection of data points that answer a statistical question is called the _____.

a) shape
b) spread
c) distribution
d) center

6.SP.2

8

The _____ of a dataset describes how the plotted data looks.

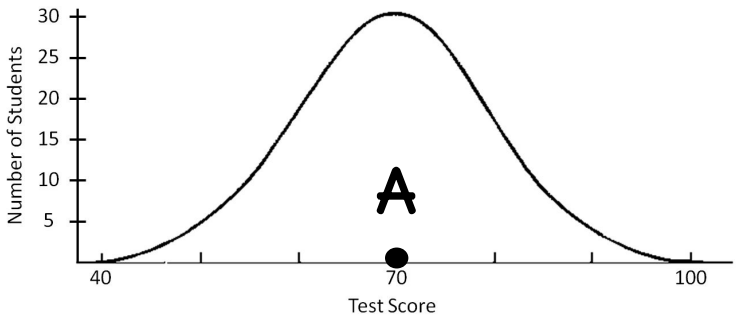
a) shape
b) spread
c) distribution
d) center

6.SP.2

9

Point ‘A’ best describes the ___ of the scores.

a) shape
b) spread
c) distribution
d) center



6.SP.2

10

The "median" of a dataset best describes the dataset's _____.

a) shape
b) spread
c) distribution
d) center

6.SP.2

11

The "variability" of a dataset relates to the _____ of the data.

a) shape
b) spread
c) distribution
d) center

6.SP.2

12

A _____ has a distribution which can be described by its center, spread, and overall shape.

a) dataset
b) number
c) quartile
d) numeral

6.SP.2

13

A measure of a dataset's _____ summarizes all of its values with a single number.

a) shape
b) spread
c) distribution
d) center

6.SP.3

14

A measure of a dataset's _____ uses a single number to describe how different the data points all are from each other.

a) shape
b) variation
c) center
d) distribution

6.SP.3

15

The “mean” and “median” are measures of a dataset’s _____.

a) variation
b) center

6.SP.3

16

The “variance” and “deviation” are measures of a dataset’s _____.

a) variation
b) center

6.SP.3

17

The “average” is a measure of a dataset’s _____.

a) variation
b) center

6.SP.3

18

A dataset's _____ measures how far a set of numbers are spread out from their average value.

a) distribution
b) median
c) variance
d) mean

6.SP.3

19

A dataset's _____ is calculation of the average value. It is obtained by adding all values and dividing the the number of data points.

a) distribution
b) median
c) variance
d) mean

6.SP.3

20

A dataset's _____ is the middle value in a dataset.

a) distribution
b) median
c) variance
d) mean

6.SP.3

6.SP.2 and 6.SP.3 Task Cards

ANSWER KEY

1. **a**	2. **d**	3. **b**	4. **c**
5. **d**	6. **b**	7. **c**	8. **a**
9. **d**	10. **d**	11. **b**	12. **a**
13. **d**	14. **b**	15. **b**	16. **a**
17. **b**	18. **c**	19. **d**	20. **b**

1

Eight boys were asked their favorite color. The results are below. Complete the dot plot using this data.

Results: blue, green, red, red, red, blue, blue, red

6.SP.4

2

The high temperature (in degrees Fahrenheit) for each of the last 14 days is written below. Complete the dot plot using this data.

Temperatures: 66, 60, 60, 66, 64, 65, 66, 66, 64, 64, 67, 60, 63, 65

6.SP.4

3

The heights of the players on a high-school basketball team are given below. Complete the dot plot using this data.

Heights: 6'0", 5'9", 6'4", 6'1", 6'2", 6'1", 5'11", 6'0", 6'2", 6'1", 6'0", 5'11", 6'1"

6.SP.4

4

Twenty students took a four-question test. The following table was created to show how many students earned each score (0 through 4). Use this data to create a dot plot.

Score	Number of Students
0	1
1	3
2	5
3	6
4	5

6.SP.4

5

The weight (in pounds) of each student in a class is shown below. Complete the histogram using this data.

Weights: 119, 121, 102, 112, 125, 105, 123, 109, 98, 111, 116, 129

6.SP.4

6

The low temperature (in degrees Fahrenheit) for each of the last 14 days is written below. Complete the histogram using this data.

Temperatures: 34.4, 35, 32.7, 36.1, 35.8, 36.4, 39.3, 37, 36.9, 35.9, 35.1, 34.1, 35.4, 35.3

6.SP.4

7

Scientists measured the heights of 8 trees and recorded them in inches. Complete the histogram using this data.

Tree heights: 389, 402, 299, 300, 149, 95, 321, 110

6.SP.4

8

Zookeepers weighed a family of giant tortoises and recorded their weights (in pounds). Make a histogram to display the results.

Tortoise weights: 303, 250, 501, 399, 350, 660, 491, 699, 400, 379, 199, 402, 580, 880, 499

6.SP.4

9

Eight students were asked how many miles they live from school. Their responses were:
2, 8, 8, 6, 3, 4, 10, 3.

What are the minimum and maximum values?

6.SP.4

10

Using the miles-from-school data from question #9, find the median of the data.

6.SP.4

11

Using the miles-from-school data from question #9, find the first and third quartiles of the data.

6.SP.4

12

Create a box plot to display the miles-from-school data from question #9.

6.SP.4

13 Use this data to complete questions 17-20.

A class of 10 students earned the following scores on a math test: 70, 20, 80, 100, 40, 70, 80, 50, 100, 50.

What are the minimum and maximum values?

6.SP.4

14

Using the math-test data from question #13, find the median of the data.

6.SP.4

15

Using the math-test data from question #13, find the first and third quartiles of the data.

6.SP.4

16

Create a box plot to display the math-test data from question #17.

6.SP.4

17 Use this data to complete questions 17-20.

Eight cross-country runners logged the miles they ran yesterday. Their results were:
3, 10, 4, 3, 5, 6, 0, 6

What are the minimum and maximum values?

6.SP.4

18

Using the cross-country data from question #17, find the median of the data.

6.SP.4

19

Using the cross-country data from question #17, find the first and third quartiles of the data.

6.SP.4

20

Create a box plot to display the cross-country data from question #17.

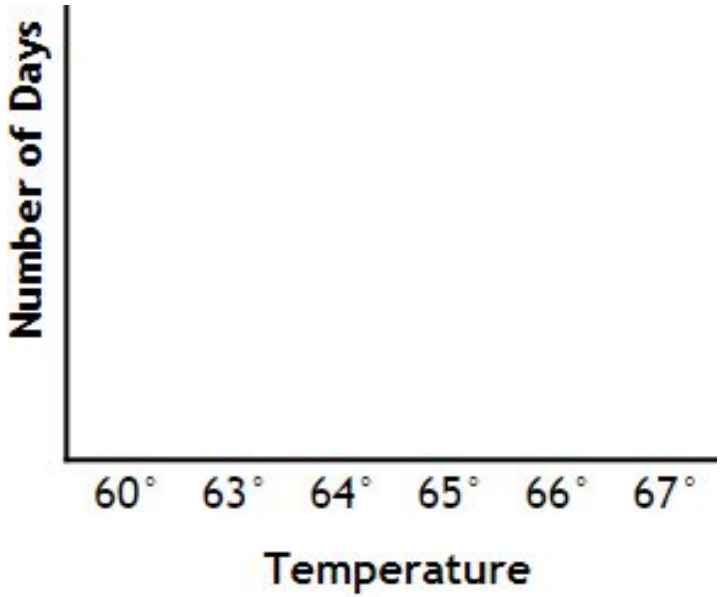
6.SP.4

6.SP.4 Task Cards

Name: _____

1.

2.



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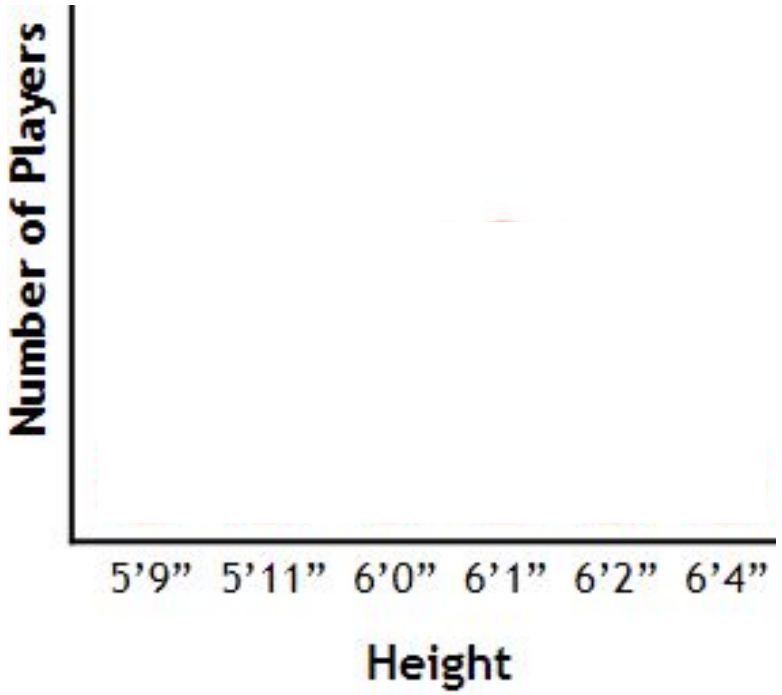

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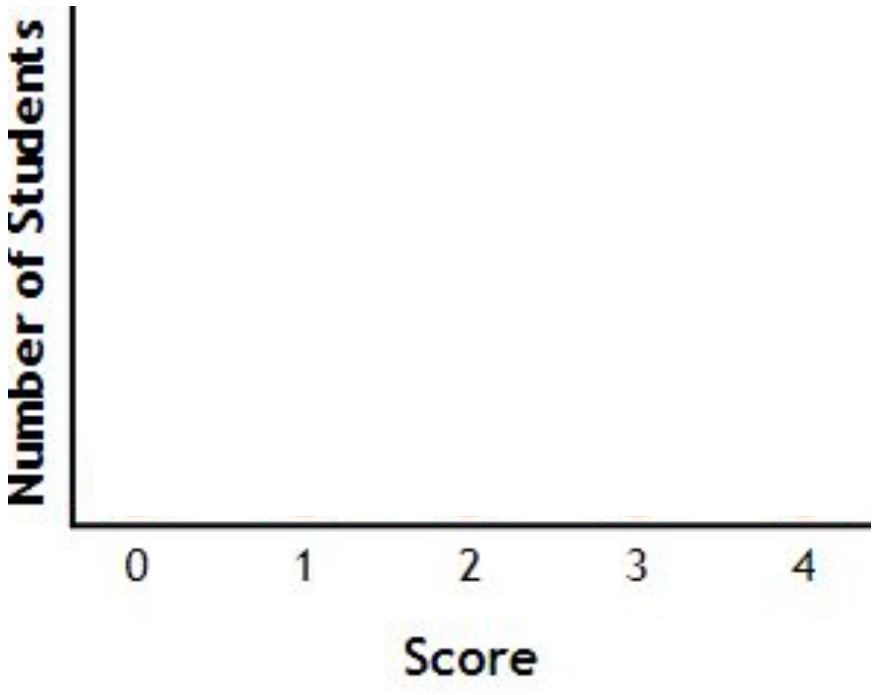
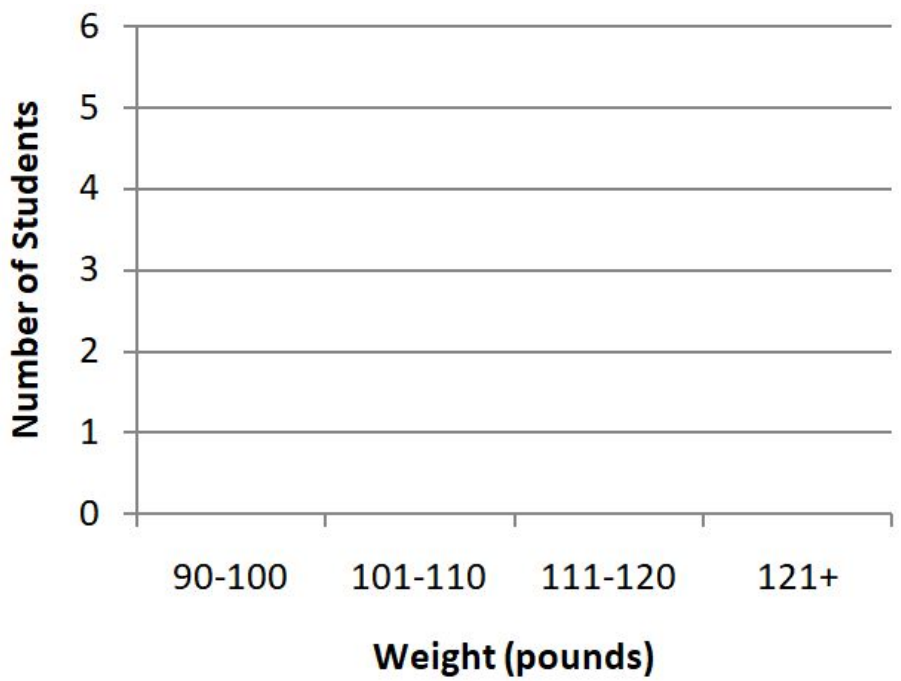


6.SP.4 Task Cards

Name: _____

5.



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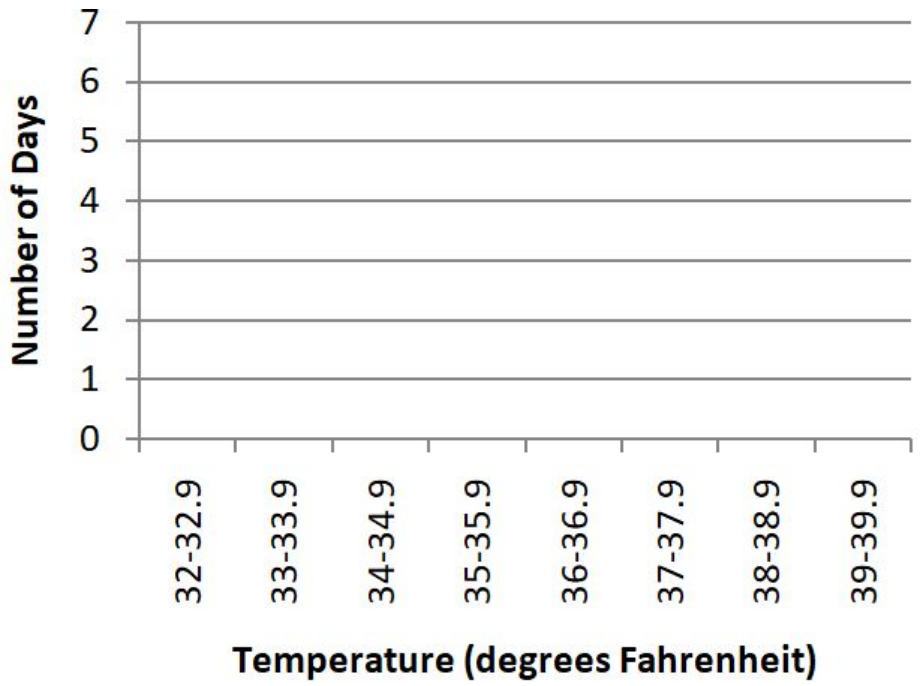

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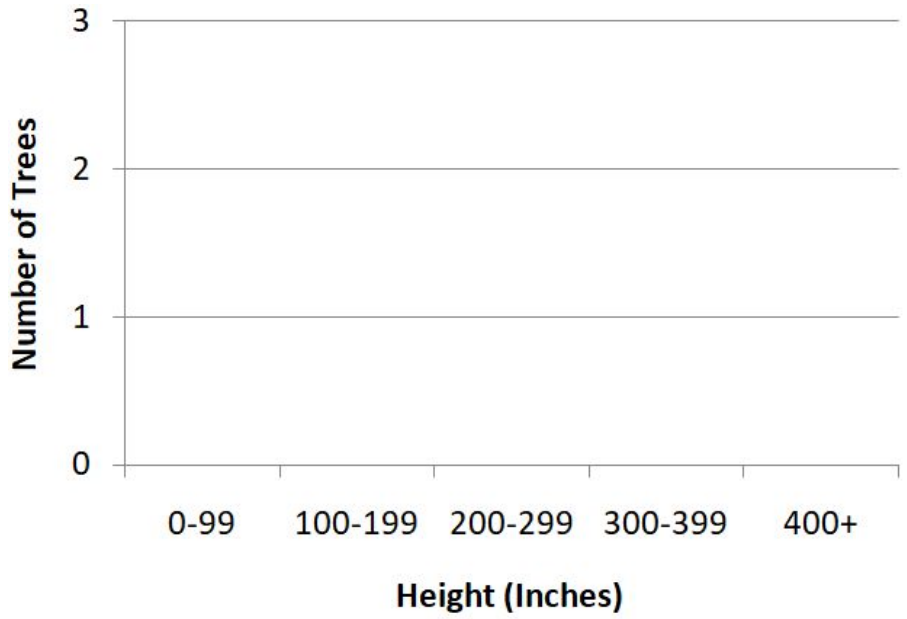

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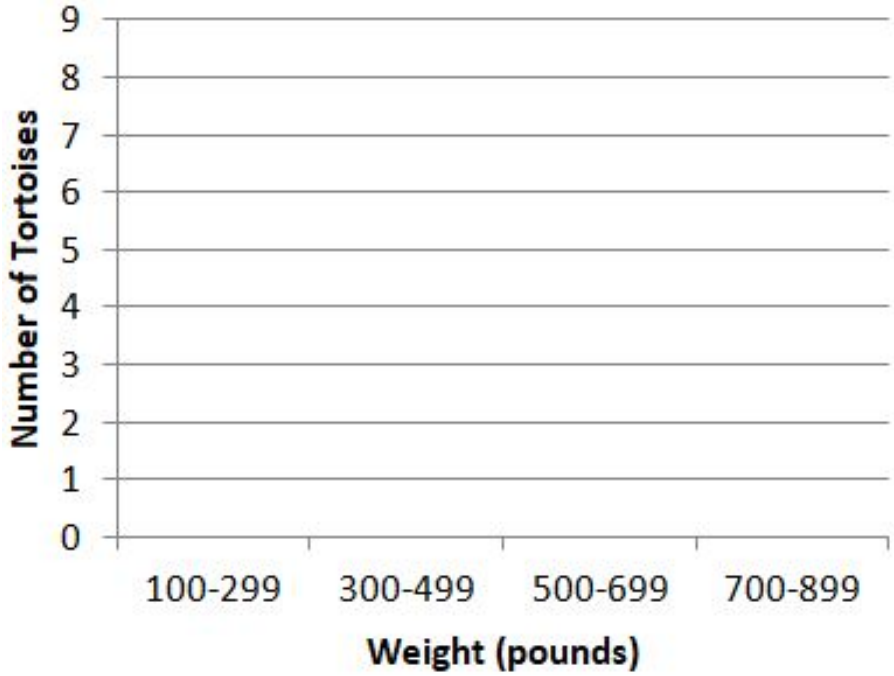
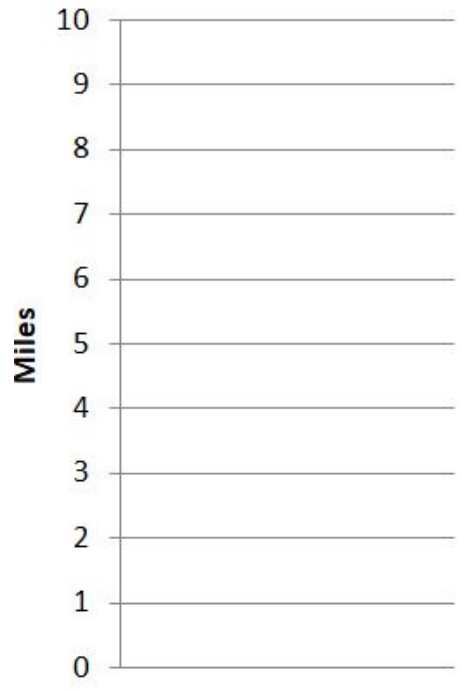
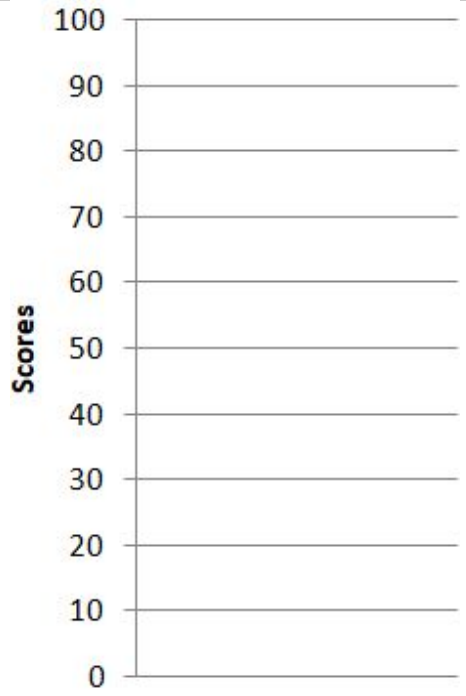


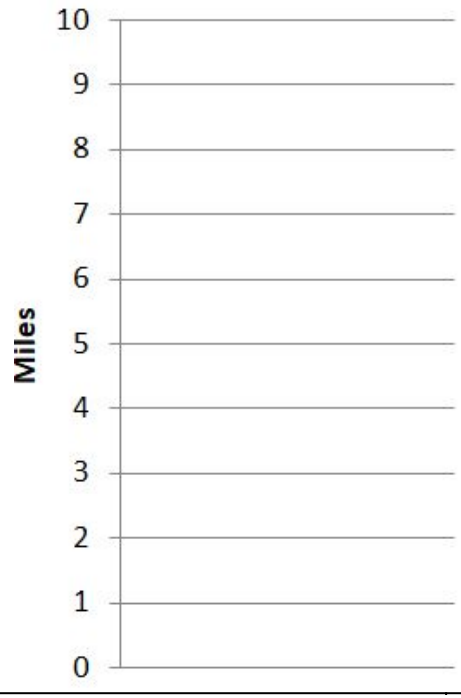
6.SP.4 Task Cards

Name: _____

9. Minimum = Maximum =	10.	11. Quartile 1 = Quartile 2 =	12. 
13. Minimum = Maximum =	14.	15. Quartile 1 = Quartile 2 =	16. 

6.SP.4 Task Cards

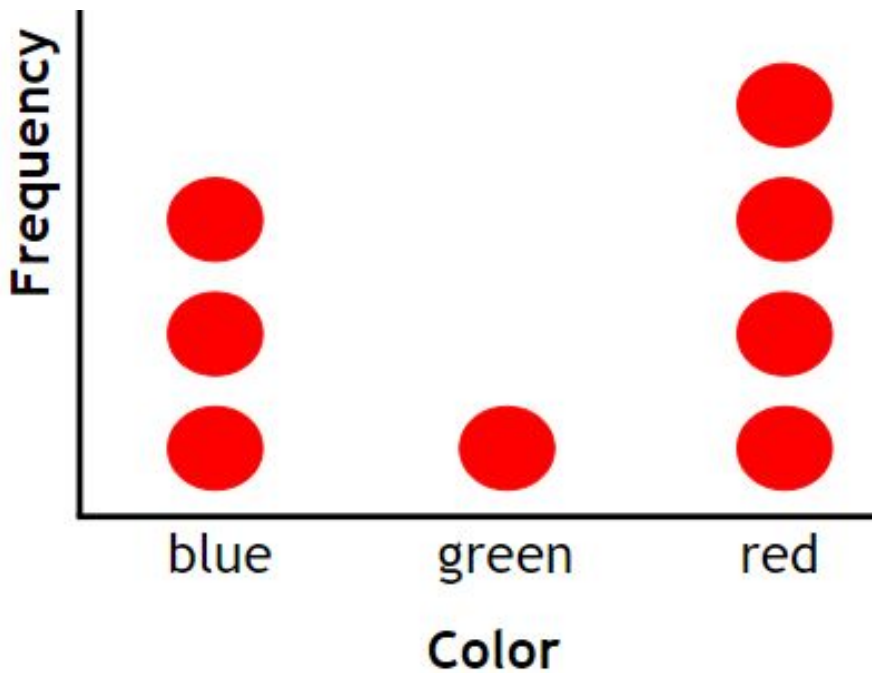
Name: _____

17. Minimum = Maximum =	18.	19. Quartile 1 = Quartile 2 =	20. 

6.SP.4 Task Cards

Name: _____ **ANSWER KEY**

1.



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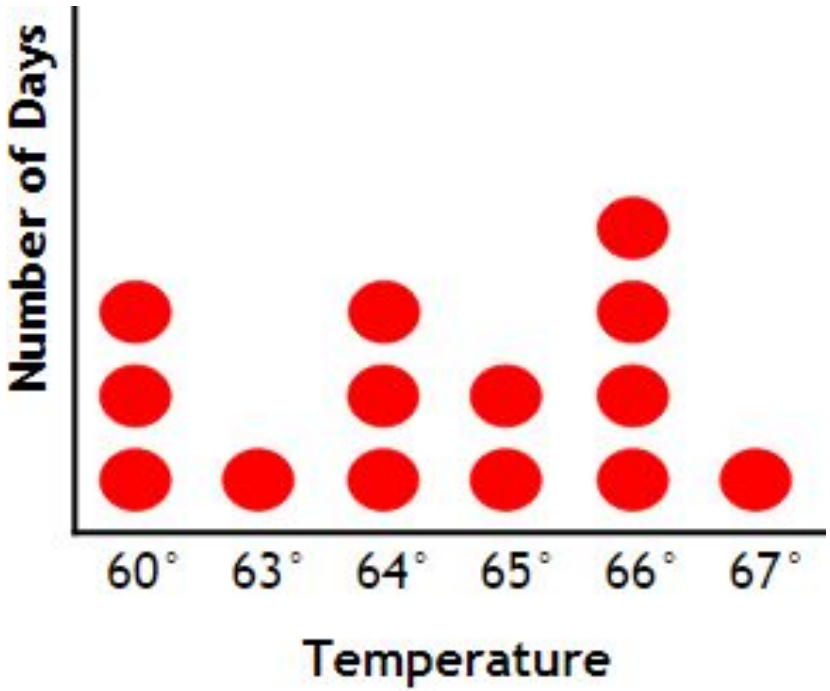

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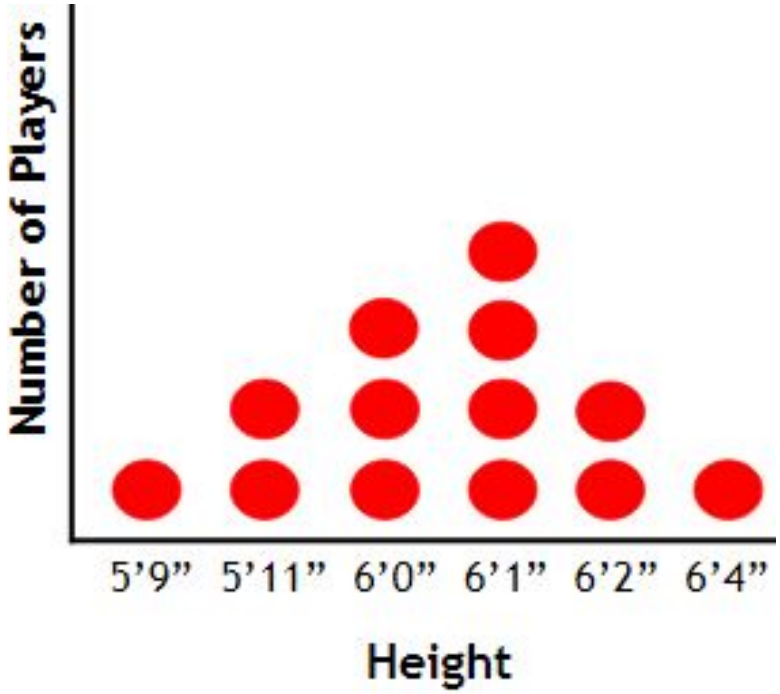

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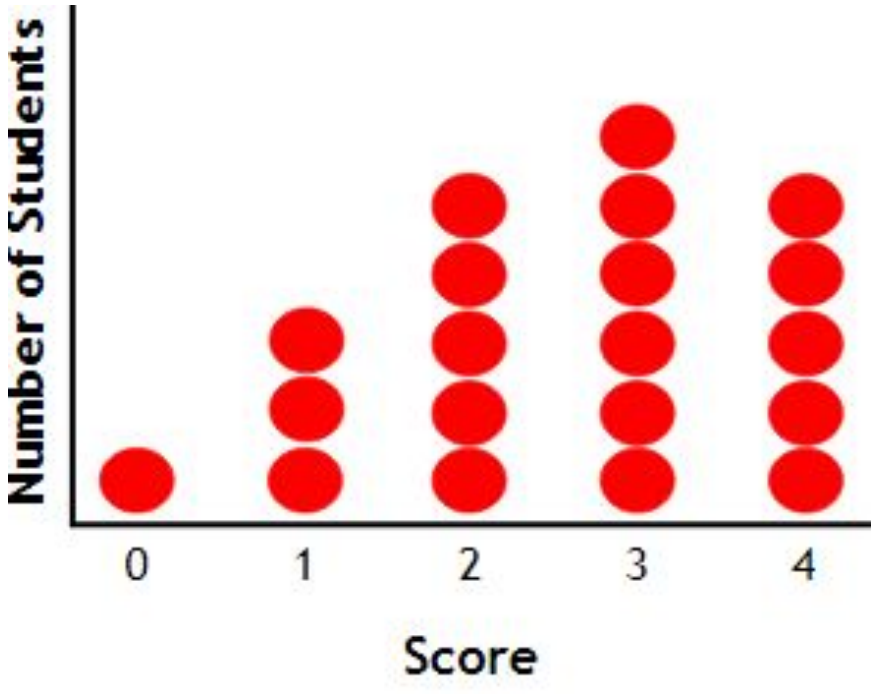
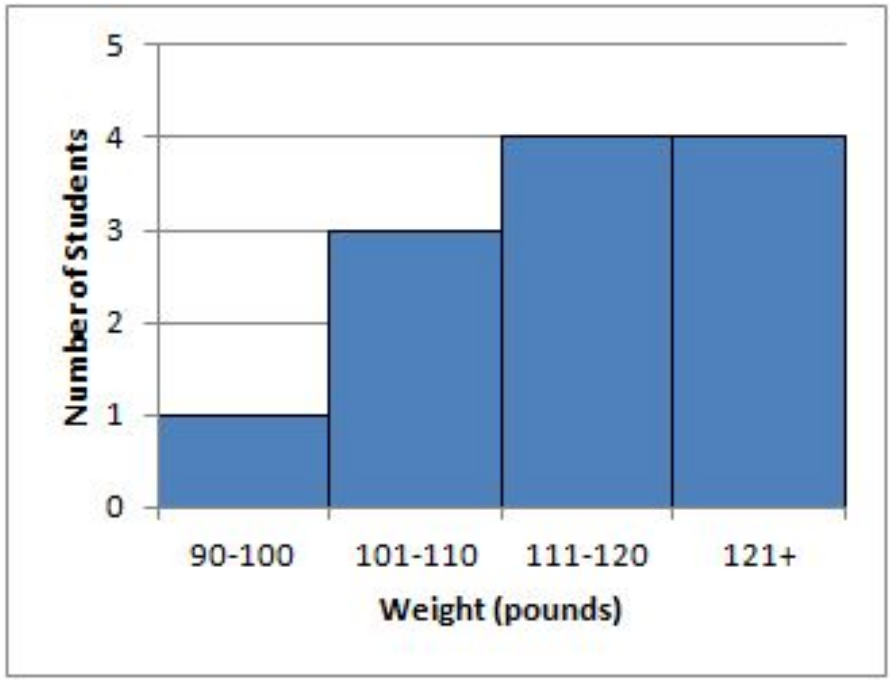


6.SP.4 Task Cards

Name: _____ **ANSWER KEY**

5.



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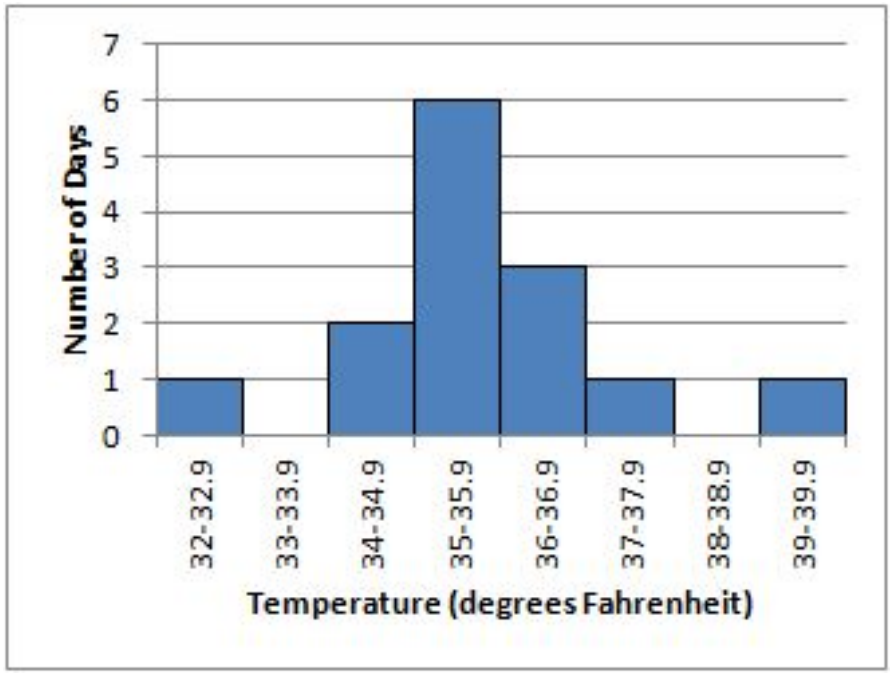

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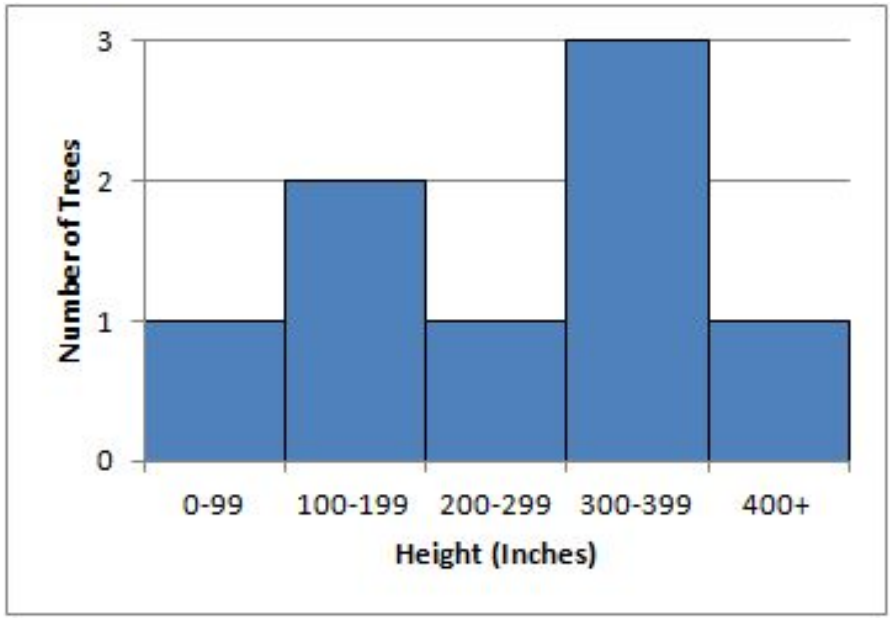

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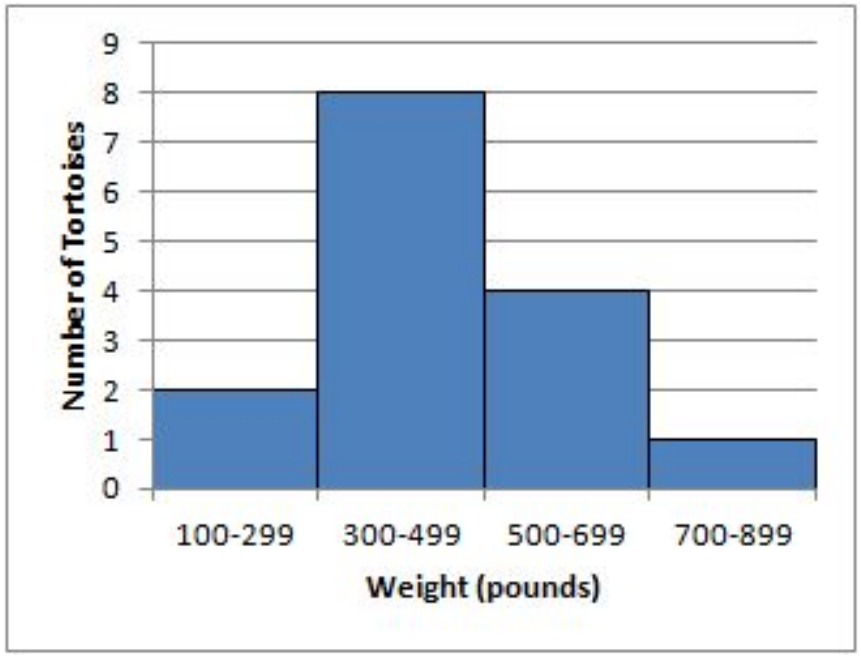
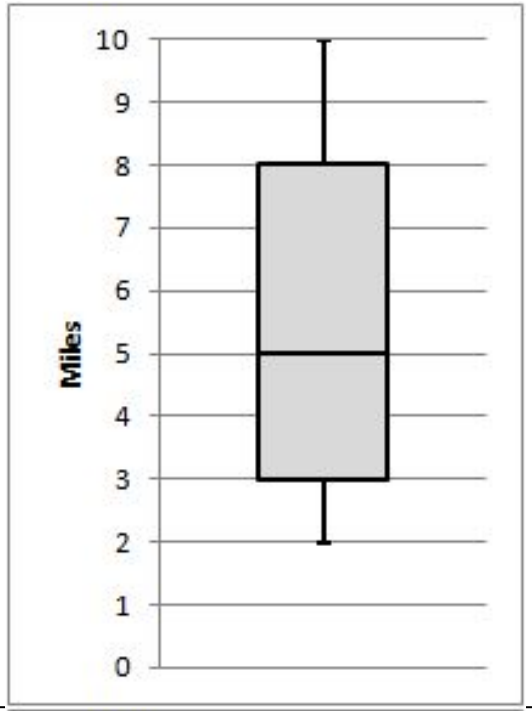
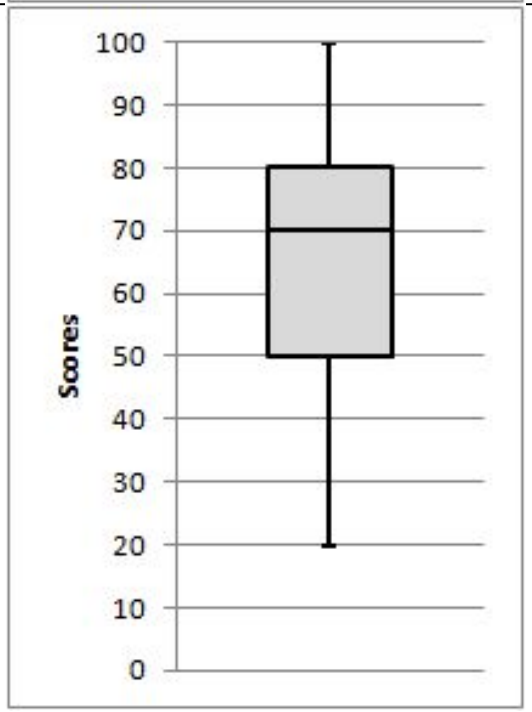


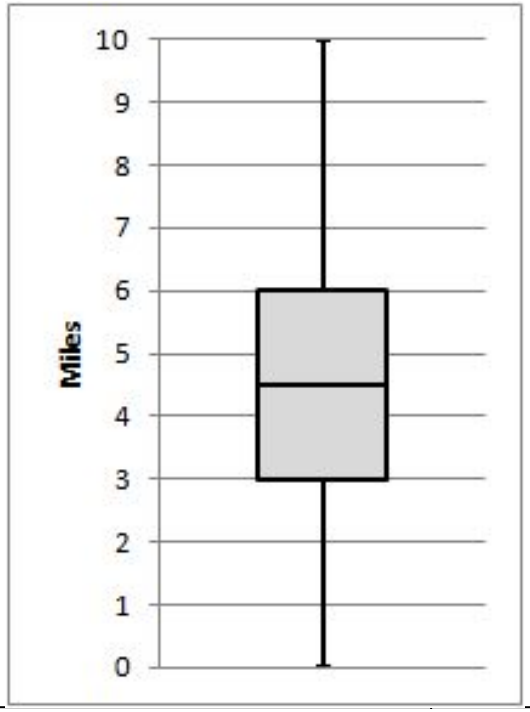
6.SP.4 Task Cards

Name: _____ **ANSWER KEY**

9. Minimum = **2** Maximum = **10**	10. **5**	11. Quartile 1 = **2** Quartile 3 = **10**	12. 
13. Minimum = **20** Maximum = **100**	14. **70**	15. Quartile 1 = **50** Quartile 3 = **80**	16. 

6.SP.4 Task Cards

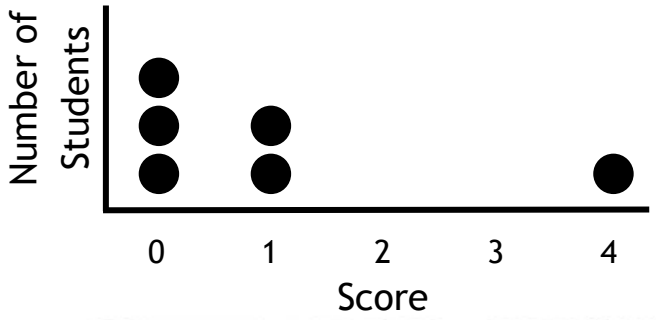
Name: _____ **ANSWER KEY**

17. Minimum = **0** Maximum = **10**	18. **4.5**	19. Quartile 1 = **3** Quartile 3 = **6**	20. 

1

A small group of students took a difficult four-question test. Their scores are shown on the dot plot below. Use this plot to answer questions 1-4.

How many students took the test?



6.SP.5

2

What was the median of the scores on the test in question #1?

6.SP.5

3

What was the mean of the scores on the test in question #1?

6.SP.5

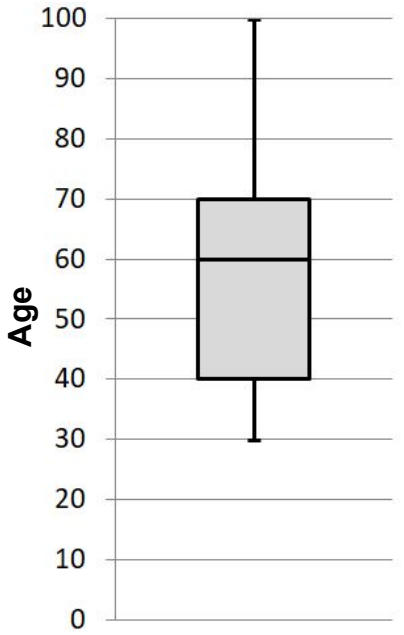
4

What was the mean absolute deviation from the mean of the scores on the test in question #1?

6.SP.5

5

A scientist recorded the ages of a group of people living in a remote village. He graphed that information on the box plot to the right. Use this plot to answer questions 5-8.



What is the median age of the people in this village?

6.SP.5

6

What is the third quartile of the ages of the village people from question #5?

6.SP.5

7

What is the age of the youngest person in the village from question #5?

6.SP.5

8

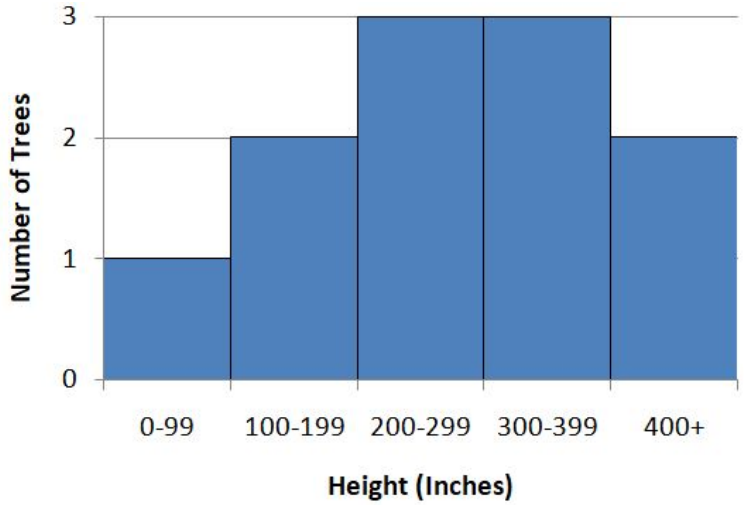
What is the interquartile range of the ages of the village people from question #5?

6.SP.5

9

Students measured heights of trees and generated a histogram to show their results. Use this graph to answer questions 9-12.

How many trees were measured?



6.SP.5

10

Was the median tree shorter or taller than 199 inches? (Use the histogram on question #9 to answer.)

6.SP.5

11

How many trees measured between 200 and 299 inches tall? (Use the histogram on question #9 to answer.)

6.SP.5

12

How many more trees measured 400 or more inches tall than those measuring 99 inches or less? (Use the histogram on question #9 to answer.)

6.SP.5

13

Six players on the Purple Penguins soccer team scored the following number of goals this season: 2, 1, 5, 6, 4, 0.

What was the median number of goals scored?

6.SP.5

14

Six players on the Purple Penguins soccer team scored the following number of goals this season: 2, 1, 5, 6, 4, 0.

What was the mean average number of goals scored?

6.SP.5

15

Six players on the Purple Penguins soccer team scored the following number of goals this season: 2, 1, 5, 6, 4, 0.

What was the mean absolute deviation from the median?

6.SP.5

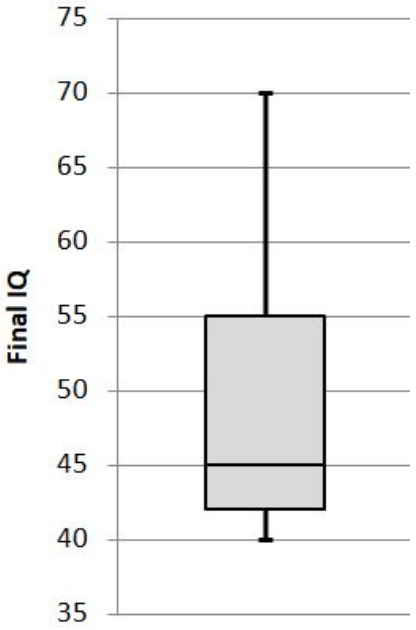
16

Six players from the Green Martians soccer team scored the following number of goals this season: 6, 1, 4, 0, 4, 1.

What was the interquartile range of their scores?

6.SP.5

17 A pharmaceutical company creates a pill designed to increase a person's Intelligence Quotient (IQ). Five hundred dolphins, each with a starting IQ of 50, were given the drug. After two weeks, their IQs were measured and summarized in this box plot. The mean final IQ was 52.



Which center measure, mean or median, makes the company's drug look best?

6.SP.5

18

The pharmaceutical company from question #17 is trying to market its drug, so it claims that "During testing, multiple dolphins improved their IQs by five or more points."

Is that true or false?

6.SP.5

19

The pharmaceutical company from question #17 is trying to market its drug, so it claims that "A dolphin that takes this drug will most likely improve its IQ."

Is that true or false?

6.SP.5

20

The pharmaceutical company from question #17 is trying to market its drug, so it claims that "Test results show an improvement of as much as 20 IQ points when tested on dolphins."

Is that true or false?

6.SP.5

6.SP.5 Task Cards

ANSWER KEY

1. **6**	2. **0.5**	3. **1**	4. **1**
5. **60**	6. **70**	7. **30**	8. **30**
9. **11**	10. **taller**	11. **3**	12. **1**
13. **3**	14. **3**	15. **2**	16. **3**
17. **mean**	18. **true**	19. **false**	20. **true**