Grade 5 Math Authentic OAT Questions

Data Analysis and Probability Standard

1. Ms. Benitez's class recorded the temperature for several mornings at 9:00 a.m. The temperatures the class recorded are shown.

   61°, 63°, 62°, 65°, 66°, 61°, 60°

   What is the mode of the data the class collected?

   A. 60°
   B. 61°
   C. 62°
   D. 65°

2. Gregg has four shirts and three pairs of pants. His shirts are red, green, white, and yellow. His pants are navy, black and tan.

   On a separate piece of paper, list all the different shirt and pants combinations that Gregg can wear. (2 points)

3. Which group of numbers has the greatest median?

   A. 2, 5, 5, 5, 6
   B. 2, 3, 7, 9, 10
   C. 4, 4, 6, 6, 7
   D. 3, 5, 8, 9, 9

4. Janet has a box of 30 cards. There are 15 blue cards and 15 green cards in the box. Janet pulls out a card, records the color and returns the card to the box. After pulling 10 times, she has recorded 6 blue cards and 4 green cards.

Which statement describes whether this result is reasonable?

A. It is reasonable because both 6 and 4 are close to 5.

B. It is reasonable because 6 is more than 4.

C. It is not reasonable because she will always get 5 blue cards and 5 green cards.

D. It is not reasonable because she did not pick enough cards.

5. Beverly writes each letter of her name on a separate index card, as shown.

B	E	V	E	R	L	Y

She puts all the cards in a bag. She randomly pulls out one card.

What is the probability that the card is an "E"?

A. $\frac{1}{2}$

B. $\frac{2}{5}$

C. $\frac{1}{7}$

D. $\frac{2}{7}$

6. Mike surveys his class to find each student's favorite dessert and records his data as shown.

Desserts

Student	Favorite Dessert
Oscar	Ice Cream
Jasmine	Brownies
Ashley	Ice Cream
Marcus	Ice Cream
James	Brownies
Cody	Cookies
Jessica	Cookies
Courtney	Ice Cream
Kayla	Brownies
Taylor	Cup Cakes
Antonio	Ice Cream
Mike	Brownies

On a separate sheet of paper, construct a frequency table to summarize the date. Be sure to include labels. (2 points)

7. Mr. Reid wants to know which dessert the students in his class like best.

Which data would **not** be shown in a graph of desserts the students like?

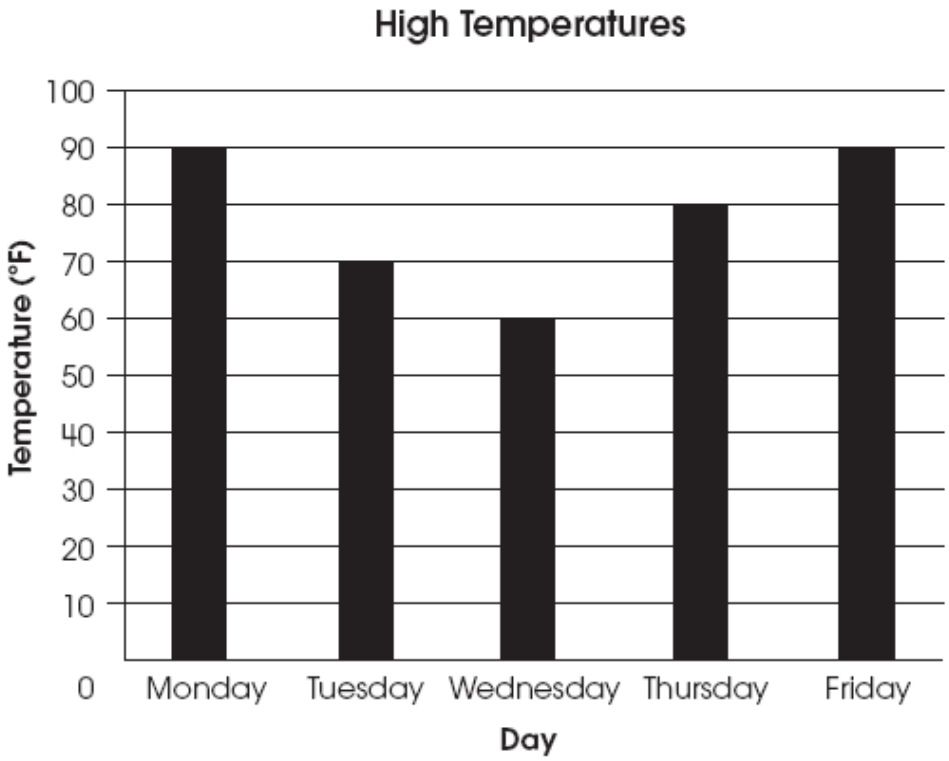
A. the price of the desserts

B. the dessert students like best

C. the number of students surveyed

D. the dessert students like second best

8. This graph shows the high temperatures over five days in one week.



What is the range of the temperatures?

A. 0 degrees

B. 20 degrees

C. 30 degrees

D. 90 degrees

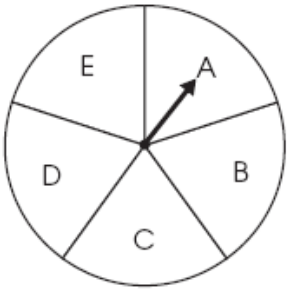
9. This table shows the low temperature for five days.

Low Temperatures

Day	Temperature (°Celsius)
Monday	4°C
Tuesday	4°C
Wednesday	8°C
Thursday	5°C
Friday	4°C

On a separate piece of paper, calculate the mean of the low temperatures. Explain what the mean indicates about these low temperatures. (2 points)

10. Tara will spin the spinner shown 100 times. She predicts the number of times the spinner will land on the letter A.



Which prediction is reasonable for the number of times the spinner will land on A?

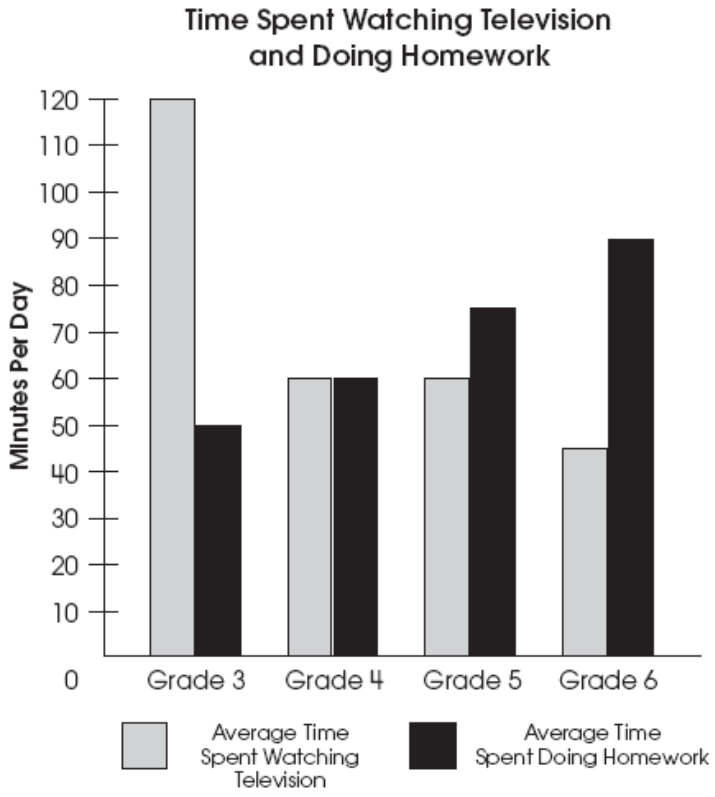
A. 3

B. 23

C. 53

D. 93

11. The double bar graph shows the average amount of time students in four different grades spend watching television and doing homework each night.



Which grade spends the most time on homework each night?

A. grade 3

B. grade 4

C. grade 5

D. grade 6

12. Troy is playing a game with a numbered cube and a coin. The cube is numbered from 1 to 6 and the coin has a heads side and a tails side. On each turn, the numbered cube is rolled and the coin is flipped.

How many outcomes are possible?

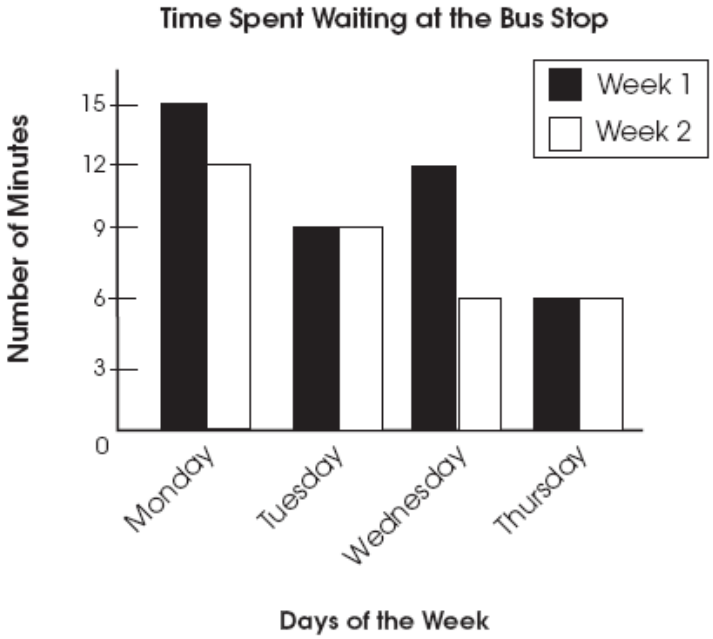
A. 2

B. 6

C. 8

D. 12

13. Shelly recorded the amount of time she spent waiting at the bus stop on several days over two weeks.



How much more time did Shelly spend waiting at the bus stop during Week 1 than Week 2?

A. Shelly waited the same amount of time in both weeks.

B. Shelly waited 3 more minutes in Week 1.

C. Shelly waited 6 more minutes in Week 1.

D. Shelly waited 9 more minutes in Week 1.

14. Samantha has different-colored buttons in a bag. The probabilities o picking each color are shown in the table.

Button Color	Probability
black	$\frac{6}{15}$
red	$\frac{2}{15}$
white	$\frac{4}{15}$
yellow	$\frac{3}{15}$

Samantha picks a button without looking in the bag.

Which color is she least likely to pick from the bag?

A. black

B. red

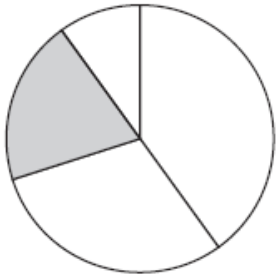
C. white

D. yellow

15. Jim created a table of the different types of music in his CD collection.

Music Types	Percentage of CDs
rock	40
oldies	30
country	20
classical	10

He started to create the circle graph shown to represent these data.



What type of music does the shaded section represent?

A. rock

B. oldies

C. country

D. classical

16. The height of a maple tree is recorded for each of 5 years in the table shown.

Year	1	2	3	4	5
Tree Height (in feet)	4	6	9	13	14

Chris displays the data in the circle graph shown.

On a separate piece, explain why Chris' circle graph is not an appropriate way to display the data.

Create an appropriate graph to display the data shown in the table. Be sure to give your graph a title, labels and a scale.

Explain why your graph is a better way to display the data. (4 points)