

TEST NAME: Math Gr 6 FAIM 2016 Form 1-B
TEST ID: 1549473
GRADE: Sixth Grade
SUBJECT: Mathematics
TEST CATEGORY: State Interim Assessment

Student:

Class:

Date:

Instructions

Use your Response Document to answer questions 13 and 22.

1. A zookeeper fills a bucket with f pounds of fish 4 times daily. If he carries 45 pounds of fish a day, which equation can be used to find how many pounds of fish are in each bucket?
 - A. $45f = 4$
 - B. $4f = 45$
 - C. $45 - f = 4$
 - D. $45 + f = 45$
2. Which group of five numbers has the greatest spread?
 - A. 3 , 12, 25, 34, 51
 - B. 5 , 11, 18, 23, 35
 - C. 22 , 25, 29, 34, 63
 - D. 36 , 45, 48, 52, 55
3. During the month of March, it rained on 11 days for a total of 6 inches. Which fraction best represents the average rate of rainfall per rainy day?
 - A. $\frac{1}{11}$ inch per day
 - B. $\frac{6}{11}$ inch per day
 - C. $\frac{6}{1}$ inch per day
 - D. $\frac{11}{6}$ inch per day

4. Simplify.

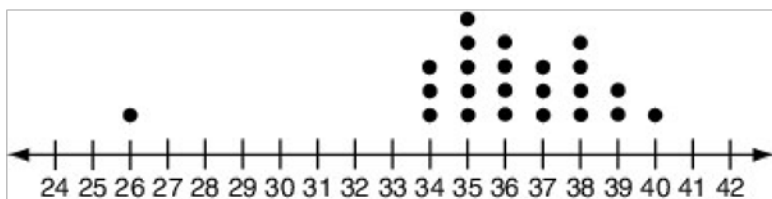
$$4a + 2 - 3c + 6 + 7c - 3 - 3b + 2a - 5b$$

5. Which measure would best describe how the numbers in a set vary?

- A. mode
- B. outlier
- C. mean and median
- D. mean absolute deviation

6. Peregrine Falcons have been known to dive at a rate of 200 miles per hour. How many miles per second is this when rounded to the nearest thousandth?

7. Every student in a classroom received a box of raisins. The students counted the number of raisins in each box and recorded their number on the dot plot shown below.



Part A. List the values needed to construct a box plot to represent the data collected by the class in the dot plot.

Part B. Which part(s) of the box plot in Part A will change if the data point at 26 is removed? Show or explain how you got your answer.

8. Brendan has six less than five times the number of pencils that Riley has. Let p represent the number of pencils Riley has. Write an algebraic expression that represents the number of pencils Brendan has in terms of p , the number of pencils that Riley has.

9. Joyce used 3 carrots and 2 celery stalks to make chicken soup. Maria used the same ratio of carrots to celery stalks to make a larger batch of chicken soup. Which of these could be the number of carrots and celery stalks Maria used for her chicken soup?
- A. 6 carrots and 5 celery stalks
 - B. 9 carrots and 4 celery stalks
 - C. 12 carrots and 6 celery stalks
 - D. 15 carrots and 10 celery stalks
10. What is the subset of $\{1, 2, 4, 8\}$ which consists of all elements that solve the inequality $8 \div c < 3$?
- A. $\{1\}$
 - B. $\{1, 2\}$
 - C. $\{4, 8\}$
 - D. $\{4, 8, 16, \dots\}$
11. Bella needs to make cleanser by mixing concentrate and water. She has made a table to help figure out how many fluid ounces of concentrate are needed for certain amounts of water.

CLEANSER USAGE

Water (in gallons)	Concentrate (in fluid ounces)
1	4
3	12
?	32

How many gallons of water are needed to use all of a 32-fluid-ounce bottle of concentrate?

12. Point X is located at coordinates $(-2, -1)$. What are the coordinates of a point located 9 units away from X ?

13. Consider the expression below.

$$t = (-2)^a$$

Create a table with values of t for integer values of a from 1 to 10, showing the appropriate exponent form and numeric value. An example of the table with the first column completed is shown below.

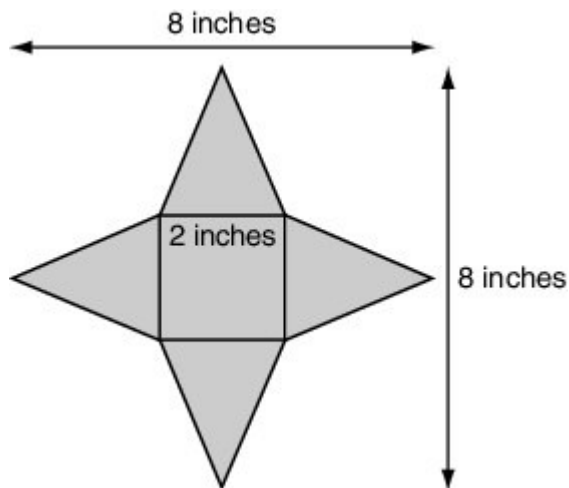
a	1	2	3	4	5	6	7	8	9	10
t (exponent form)	$(-2)^1$									
t (numeric value)	-2									

Place an "X" in the answer box below.

Answer the question on the Response Document provided.

Click next.

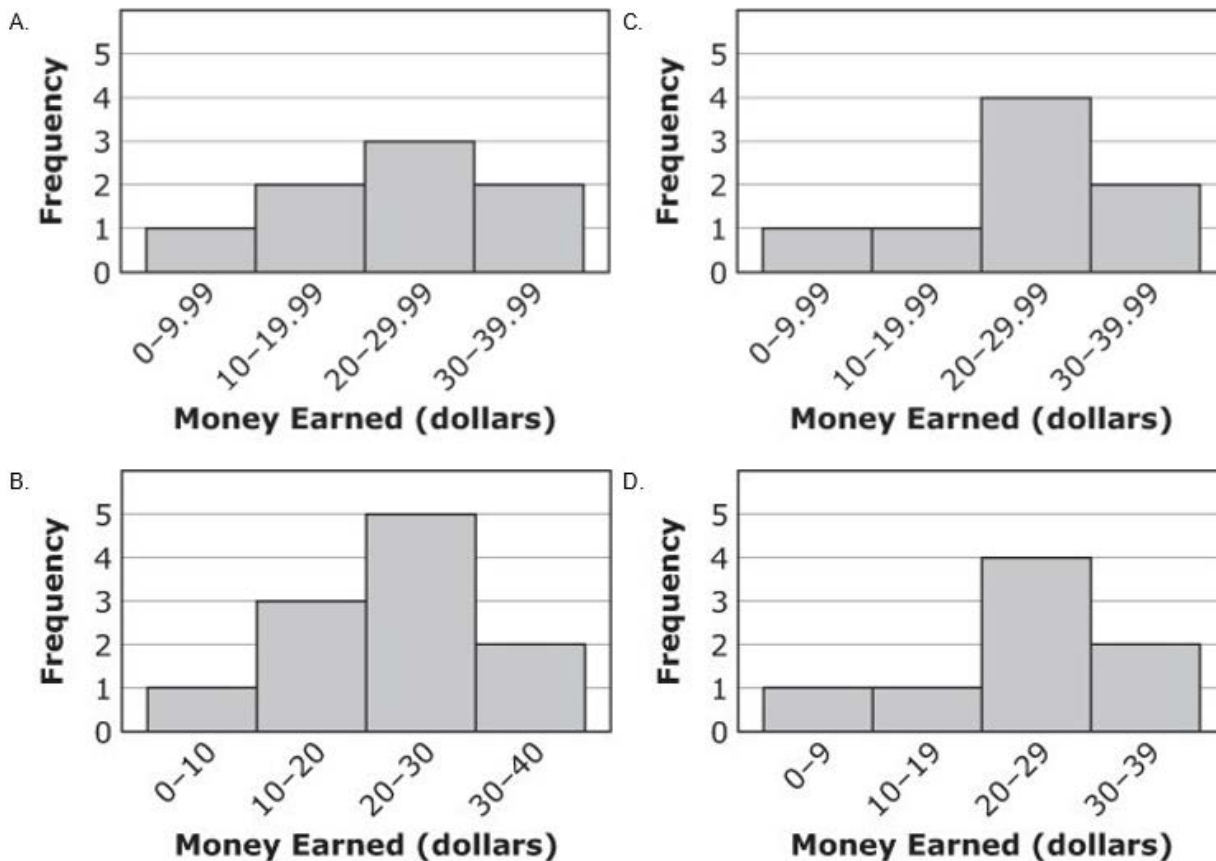
14. A four-pointed star is created with four congruent isosceles triangles and a square, as shown below.



If the width of the base of each point of the star is 2 inches, what is the area, in square inches, of the star?

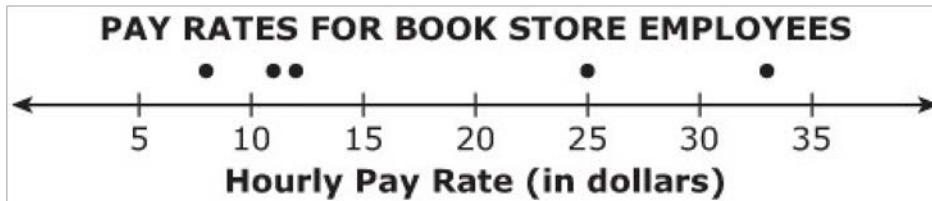
15. The table shows Kevin's earnings for eight weeks. Which histogram displays his earnings appropriately?

Week Number	Earnings (dollars)
1	30
2	15
3	20
4	35.50
5	20.50
6	25
7	20
8	9.50



16. Ashley needs new batteries for the flashlights at her house. Each flashlight takes 4 batteries. Write an equation to show how the number of batteries needed, b , depends on the number of flashlights, f .

17. The dot plot shows the hourly pay rate for the five employees at Best Books bookstore.

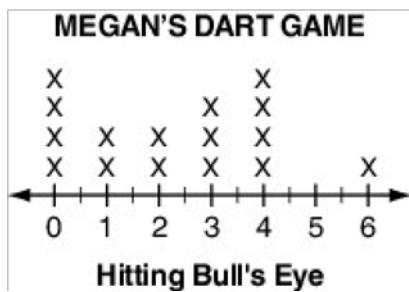


Levi makes \$8 per hour working at Best Books, and plans to ask his manager for a raise. Levi has worked at this bookstore the least amount of time out of the five employees. He writes down the following statistics for the data, and a reason that the statistic supports his case for a raise.

Which statistic and justification would be the **STRONGEST** support for him to cite in asking for a raise?

- A. the mean hourly rate, since Levi's current hourly rate is an outlier in the data set
 - B. the median hourly rate, since Levi's current hourly rate is close to what most of the employees make
 - C. the range, since it shows that there is a large difference between Levi's hourly rate and the highest hourly rate
 - D. the interquartile range, since it shows that there is a large difference between the hourly rates of the employees earning less than the average and the hourly rates of employees earning more than the average
18. One winter in North Dakota, the temperature dropped to -37° Fahrenheit. How many degrees must the temperature increase to reach 0° Fahrenheit?
19. Jeff picked 1 pound of blueberries in 15 minutes. If he picks at a constant speed, how many pounds of blueberries will Jeff pick in 90 minutes?
- A. 4
 - B. 6
 - C. 106
 - D. 1,350

20. Megan and her friends were playing darts. The data below show the number of times each of her friends hit the bull's eye.



Based on median and range, which statement is **true**?

- E. The variation of the data is 2.5 units more than its center.
 - F. The center of the data is 2.5 units more than its variation.
 - G. The center of the data is 2.4 times its variation.
 - H. The variation of the data is 2.4 times its center.
21. Aaron's wrestling coach placed him in the lowest weight class. All the wrestlers in this weight class weigh under 70 pounds. If w stands for Aaron's weight, write an inequality that **best** represents his current weight.

22. Stephanie is making trail mix with her mom. The recipe is shown below.



The only measuring cup they have available is a $\frac{1}{4}$ cup.

Part A. Rewrite the recipe to show how many $\frac{1}{4}$ cups will be needed to complete the recipe. Show and explain your work.

Part B. They didn't have enough nuts, so they only made half of a batch of the mix. Stephanie is putting the trail mix into baggies to make snacks for school. If she puts $\frac{2}{3}$ cup into each bag, will there be enough for Stephanie to have one snack bag for a full 5-day school week? Explain why or why not.

Part C. Describe one other situation with a recipe when you might need to multiply or divide the ingredients in a recipe.

Place an "X" in the answer box below.

Answer the question on the Response Document provided.

Click next.

