

Student Name: _____



PERFORMANCE EVALUATION
FOR ALASKA'S SCHOOLS

Mathematics Test Booklet Grade 6

Paper-Based Item Sampler

Alaska Department of Education & Early Development



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MARK
ON THIS
PAGE**

Part 1

Mathematics

Directions: Now you will be taking the mathematics portion of the Performance Evaluation for Alaska’s Schools. This test has two parts that contain different types of questions. Record all your answers in the answer document. Do not write in the test booklet.

Today, you will take Part 1 of the assessment. Calculators are NOT allowed in this part. The test will include questions that will ask you to provide your answer in a variety of ways.

- Most of the questions will have four answer choices and only one correct answer.
- Some questions have more than four answer choices and more than one correct answer. You will be asked to identify all the correct answers.
- Some questions will ask you to fill in your answer to provide your response. To fill in your answer, write your answer in the boxes at the top of the grid. Only one number or symbol is allowed in each box. Write mixed numbers as improper fractions. You may start anywhere. Fill in the bubble that matches the number or symbol at the top. See the examples in the pictures.

Answer -3 is shown here.	Answer $\frac{1}{2}$ is shown here.	Answer $.75$ is shown here.

Write your answers in the answer document. DO NOT WRITE YOUR ANSWERS IN THE TEST BOOKLET. All questions will be scored from answers in your answer document ONLY.

When you come to the word STOP at the end of Part 1, you have finished Part 1 of the mathematics assessment. You may review only Part 1 to check your answers. Make sure you have marked all your answers in the answer document clearly and that you have completely erased any marks you do not want. When you are finished, close your test booklet and answer document.

Mathematics – Grade 6 Part 1

1. An equation is shown.

$$2x + 6 = 14$$

Which value of x makes this equation true?

- A. 1
 - B. 3
 - C. 4
 - D. 10
2. Stella has some pens in her schoolbag. If she doubled the number of pens in her schoolbag, she would have 18 pens.

How many pens does Stella have in her schoolbag?

- A. 6
- B. 9
- C. 16
- D. 36

3. Divide.

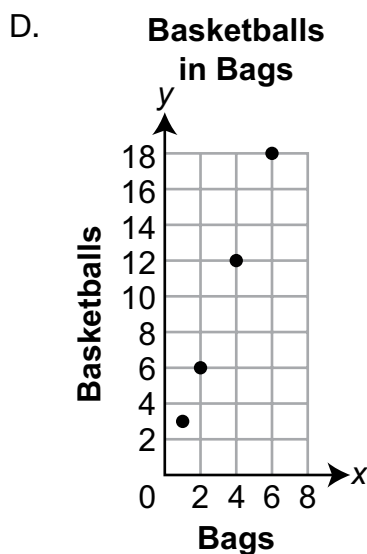
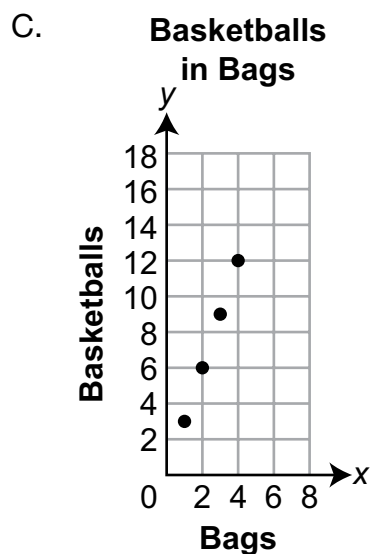
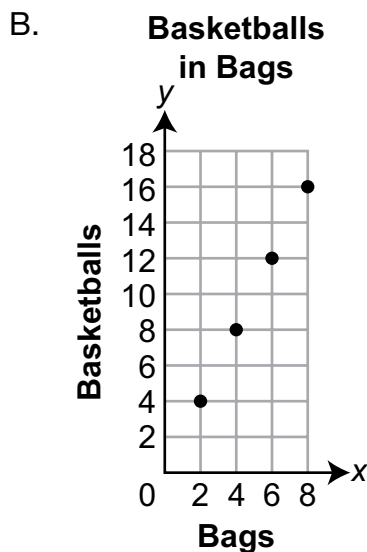
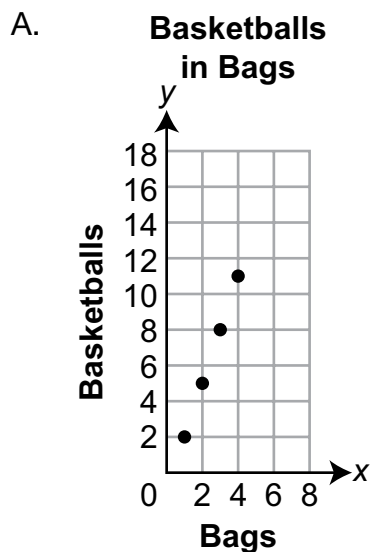
$$\frac{3}{4} \div \frac{6}{8}$$

- A. $\frac{1}{2}$
- B. 1
- C. $\frac{16}{9}$
- D. 2

4. Joseph works at a gym. Each morning, he brings out bags of basketballs for players to use. There is the same number of basketballs in each bag. The table shows the total number of basketballs depending on how many bags Joseph brings out.

Bags	0	2	4	6	7
Basketballs	0	6	12	18	21

Which coordinate grid shows the number of basketballs in 1, 2, 3, and 4 bags?



5. Add.

$$368.903 + 42.18$$

- A. 373.121
- B. 410.1083
- C. 411.083
- D. 790.703

6. What is the value of $\frac{174}{6}$?

- A. 26
- B. 29
- C. 32
- D. 168

7. Charlie is 8 years old. Dean's age is represented by the variable D.

Select ALL the equations below that show that the sum of Charlie's age and Dean's age is 15.

- A. $D - 8 = 15$
- B. $15 - D = 8$
- C. $D + 8 = 15$
- D. $D + 15 = 8$
- E. $15 + 8 = D$
- F. $15 - 8 = D$

8. What is the greatest common factor of 24 and 40?

Enter your answer in the gridded response area on the answer document.

9. The ratio of cats to dogs in an animal shelter is 5:7. How many dogs are in the shelter if there are 15 cats?

Enter your answer in the gridded response area on the answer document.

Part 2

Mathematics

Directions: Now you will be taking the mathematics portion of the Performance Evaluation for Alaska’s Schools. This test has two parts that contain different types of questions. Record all your answers in the answer document. Do not write in the test booklet.

Today, you will take Part 2 of the assessment. Calculators are allowed in this part. The test will include questions that will ask you to provide your answer in a variety of ways.

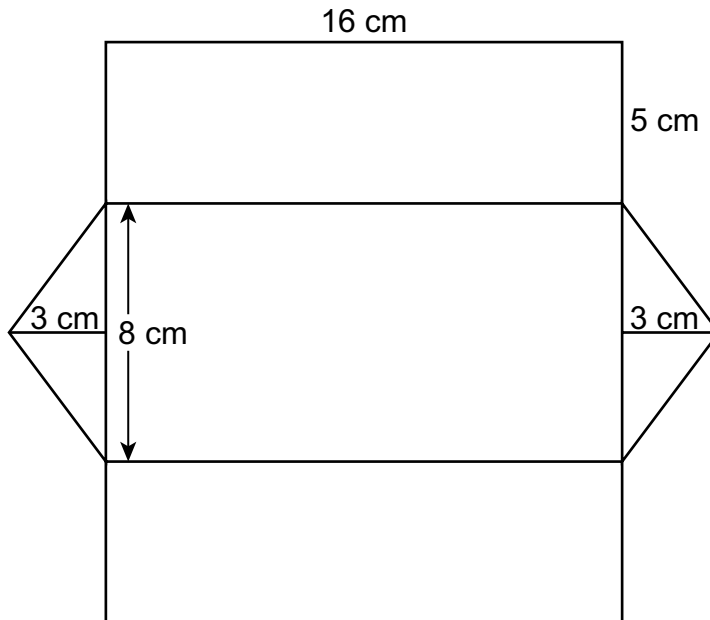
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Answer -3 is shown here.	Answer $\frac{1}{2}$ is shown here.	Answer $.75$ is shown here.

Write your answers in the answer document. **DO NOT WRITE YOUR ANSWERS IN THE TEST BOOKLET.** All questions will be scored from answers in your answer document **ONLY**.

When you come to the word **STOP** at the end of Part 2, you have finished Part 2 of the mathematics assessment. You may review only Part 2 to check your answers. Make sure you have marked all your answers in the answer document clearly and that you have completely erased any marks you do not want. When you are finished, close your test booklet and answer document.

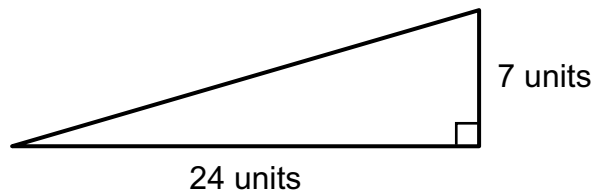
10. The net shown represents a triangular prism.



What is the surface area, in square centimeters, of the prism?

- A. 264
- B. 288
- C. 312
- D. 336

11. A right triangle is shown.



What is the area, in square units, of this triangle?

- A. 25
- B. 56
- C. 84
- D. 168

12. Some students' scores on a 10-point math assignment are shown below.

4, 4, 6, 7, 8, 9, 10

What is the range of the scores?

- A. 4
- B. 6
- C. 7
- D. 10

13. The heights, in inches, of the starting members of a basketball team are shown below.

63, 68, 72, 60, 62

What is the mean height of the starting members of the basketball team?

- A. 60 inches
- B. 63 inches
- C. 65 inches
- D. 72 inches

14. Which expression is equivalent to $3x + 40$?

- A. $20^2 + 3x$
- B. $5x + 7^2 - 2x - 9$
- C. $\frac{1}{2}(6x - 2) + 40$
- D. $x + x + x + 20 + 20 - x$

15. An inequality with a missing number is shown.

$$-1 < \square < 10$$

Which number makes the inequality true?

- A. -6
- B. -1
- C. 0
- D. 10

16. What is the value of 8^4 ?

- A. 32
- B. 512
- C. 4,096
- D. 32,768

17. Select ALL the equations in which 4 is a solution for x .

- A. $\frac{1}{2}(x + 32) = 18$
- B. $x = 2\left(\frac{1}{4}\right) + 2\left(\frac{3}{4}\right)$
- C. $x^2 + 3x - 20 = 0$
- D. $3^2 + x^2 = 5^2$
- E. $x = \frac{18 - 2}{0 - 4}$



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