Mathematics

SESSION 1

You may use your reference sheet and MCAS ruler during this session.
*You may **not** use a calculator during this session.*

DIRECTIONS
This session contains nine multiple-choice questions, one short-answer question, and one open-response question. Mark your answers to these questions in the spaces provided in your Student Answer Booklet.

1 What is the value of the 5 in the number below?

6,523,091,487

A. five billion

B. five million

C. five hundred million

D. five hundred thousand

2 Sergio paid for the items listed below with a $20 bill.

- one jar of peanut butter that cost $2.39
- one loaf of bread that cost $2.75

What was the total amount of money Sergio got back after he paid for the items?

A. $14.14

B. $14.86

C. $15.14

D. $15.86

3   Kate wrote the number pattern shown below.

$$5, \ 20, \ 80, \ 320, \ . \ . \ .$$

Which of the following could be the rule for finding the next number in Kate's number pattern?

A. add 5 to the previous number

B. add 15 to the previous number

C. multiply the previous number by 4

D. multiply the previous number by 5

4   Which of the following tables shows a constant rate of change in the total amount of money saved during the four weeks shown?

A. **Amount of Money Saved**

Week	Total Amount Saved
1	$20
2	$40
3	$50
4	$55

B. **Amount of Money Saved**

Week	Total Amount Saved
1	$20
2	$30
3	$40
4	$60

C. **Amount of Money Saved**

Week	Total Amount Saved
1	$20
2	$40
3	$60
4	$80

D. **Amount of Money Saved**

Week	Total Amount Saved
1	$20
2	$50
3	$70
4	$90

Question 5 is a short-answer question. Write your answer to this question in the box provided in your Student Answer Booklet. Do not write your answer in this test booklet. You may do your figuring in the test booklet.

5   Book covers cost $0.15 each, including tax. Ms. Larkin bought 25 of them.

What is the total amount of money that she spent on the book covers?

Mark your answers to multiple-choice questions 6 through 10 in the spaces provided in your Student Answer Booklet. Do not write your answers in this test booklet. You may do your figuring in the test booklet.

6 What is the value of the expression below?

$$(-4) + 6$$

A. -10

B. -2

C. 2

D. 10

7 Lazlo rents bicycles by the hour. The amount of money he charges for renting a bicycle is shown in the table below.

Bicycle Rental Charges

Rental Time (in hours)	Amount Charged
1	$15
2	$25
3	$35
4	$45

Based on the table, which of the following statements best describes the amount of money Lazlo charges for renting a bicycle?

A. He charges $10 for each hour of rental time.

B. He charges $15 for each hour of rental time.

C. He charges $15 for the first hour plus $5 for each additional hour of rental time.

D. He charges $15 for the first hour plus $10 for each additional hour of rental time.

8 One serving of Lara's favorite yogurt contains 150 calories. Which of the following graphs shows the relationship between the number of calories and the number of servings of Lara's favorite yogurt?
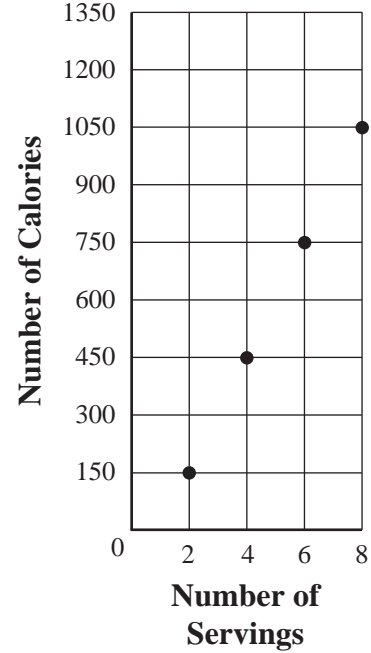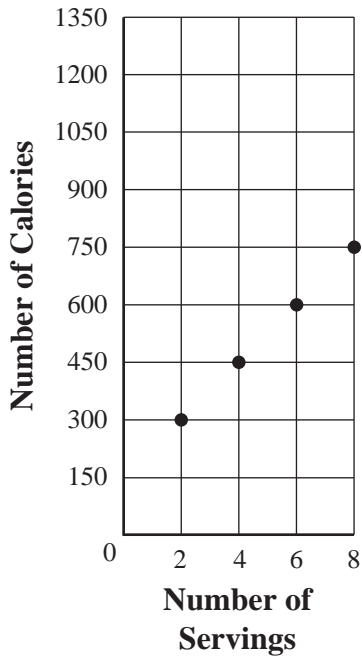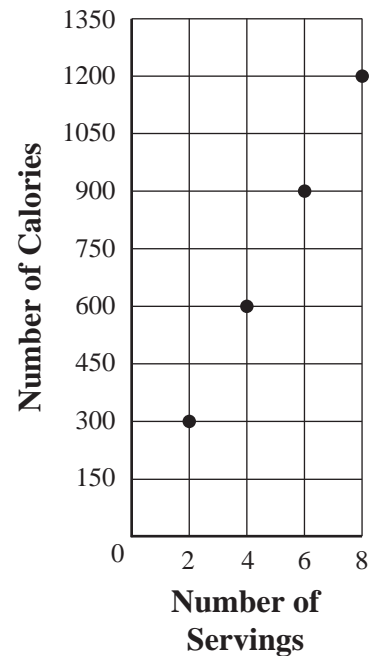
A.
Calories in Yogurt
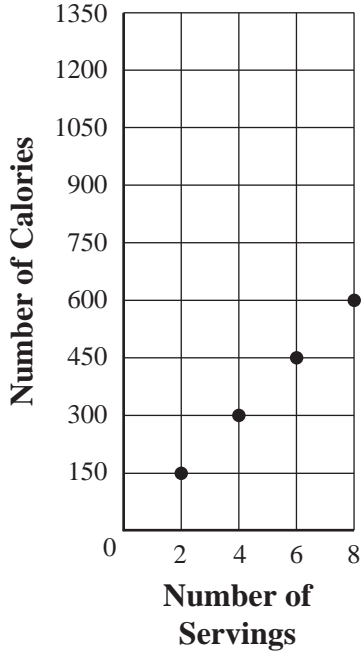
C.
Calories in Yogurt

B.
Calories in Yogurt

D.
Calories in Yogurt

9   The scale shown below is balanced.
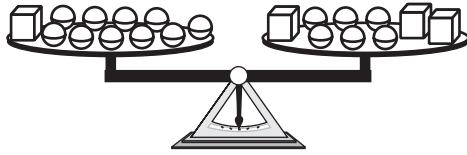
Which of the following will balance one ☐ ?

A. ⊖

B. ⊖ ⊖

C. ⊖ ⊖ ⊖ ⊖

D. ⊖ ⊖ ⊖ ⊖ ⊖ ⊖

10   Points *A*, *B*, *C*, and *D* are shown on the number line below.
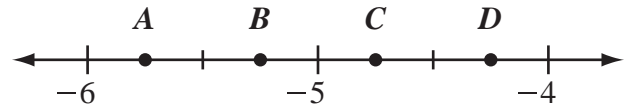
Which point best represents the location of -5.75 ?

A. point *A*

B. point *B*

C. point *C*

D. point *D*

Question 11 is an open-response question.

- **BE SURE TO ANSWER AND LABEL ALL PARTS OF THE QUESTION.**
- **Show all your work (diagrams, tables, or computations) in your Student Answer Booklet.**
- **If you do the work in your head, explain in writing how you did the work.**

Write your answer to question 11 in the space provided in your Student Answer Booklet.

11   A triangular prism and a rectangular prism are shown below.
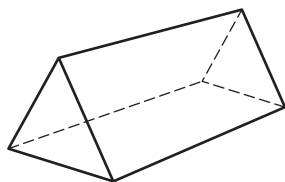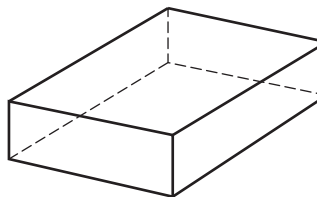
Triangular prism   **Rectangular prism**

a. How many edges does a triangular prism have?

b. How many more **faces** does a rectangular prism have than a triangular prism has? Show or explain how you got your answer.

c. How many faces does a hexagonal prism have? Show or explain how you got your answer.

Mathematics

You may use your reference sheet and MCAS ruler during this session.
*You may **not** use a calculator during this session.*

DIRECTIONS
This session contains seven multiple-choice questions, two short-answer questions, and one open-response question. Mark your answers to these questions in the spaces provided in your Student Answer Booklet.

12 What is the value of the expression below?

$$18 - 12 \div 2 + 1$$

A. 2

B. 4

C. 11

D. 13

13 Point *P* is shown on the number line below.
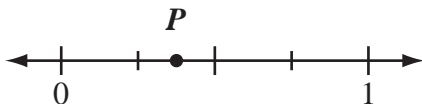
Which of the following fractions is best represented by point *P*?

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

B. $\frac{1}{4}$

C. $\frac{3}{4}$

D. $\frac{3}{8}$

14 Ms. Beltran wrote the equation below on a chalkboard.

$$\square \div 11 = 23$$

If the equation Ms. Beltran wrote is true, which of the following equations must also be true?

A. $\square = 23 \div 11$

B. $\square = 23 \times 11$

C. $\square = 11 \div 23$

D. $\square = 11 + 23$

15 Which of the following numbers has the **greatest** value?

A. 58.125

B. 5.8125

C. 58.15

D. 5.815

Questions 16 and 17 are short-answer questions. Write your answers to these questions in the boxes provided in your Student Answer Booklet. Do not write your answers in this test booklet. You may do your figuring in the test booklet.

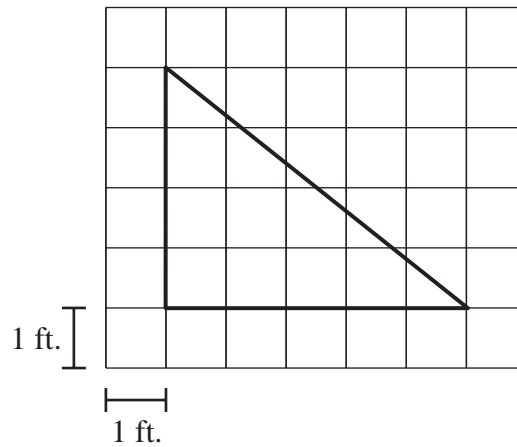**16**   What is the value of the expression below when $x = 3$?

$$7x - 4$$

17   What is the area, in square feet, of the triangle shown below?

1 ft.

1 ft.

Question 18 is an open-response question.

- **BE SURE TO ANSWER AND LABEL ALL PARTS OF THE QUESTION.**
- **Show all your work (diagrams, tables, or computations) in your Student Answer Booklet.**
- **If you do the work in your head, explain in writing how you did the work.**

Write your answer to question 18 in the space provided in your Student Answer Booklet.

18 Paul bowled 6 games today. His scores are listed in the table below.

Paul's Bowling Scores

Game	Score
1	158
2	124
3	110
4	167
5	146
6	165

a. What was Paul's median score for the 6 games? Show or explain how you got your answer.

b. What was Paul's mean score for the 6 games? Show or explain how you got your answer.

c. Paul will bowl one more game. What is the minimum score Paul must achieve in the next game so that his mean score for all 7 games is at least 150? Show or explain how you got your answer.

Mark your answers to multiple-choice questions 19 through 21 in the spaces provided in your Student Answer Booklet. Do not write your answers in this test booklet. You may do your figuring in the test booklet.

19 A sixth-grade class will clean a beach that is $3\frac{1}{2}$ miles long.

- The class will divide into 4 groups.
- Each group will clean an equal length of beach.

What is the length of beach each group will clean?

A. $\frac{1}{14}$ mile

B. $\frac{3}{8}$ mile

C. $\frac{7}{8}$ mile

D. $1\frac{1}{7}$ miles

20 A rectangular prism has a volume of 56 cubic feet. The rectangular prism has a length of 7 feet and a width of 4 feet.

What is the height of the rectangular prism?

A. 2 feet

B. 11 feet

C. 22 feet

D. 28 feet

21   Anita and Jerry are reading the same book. The graphs below show the numbers of pages
Anita and Jerry read each day for five days.

**Pages Read by
Anita**

**Pages Read by
Jerry**
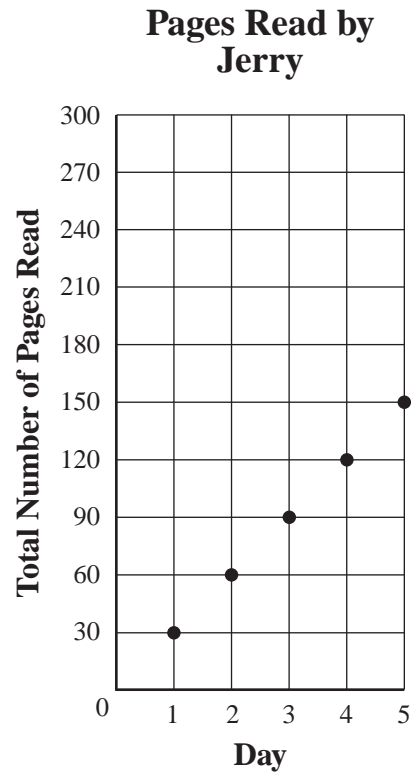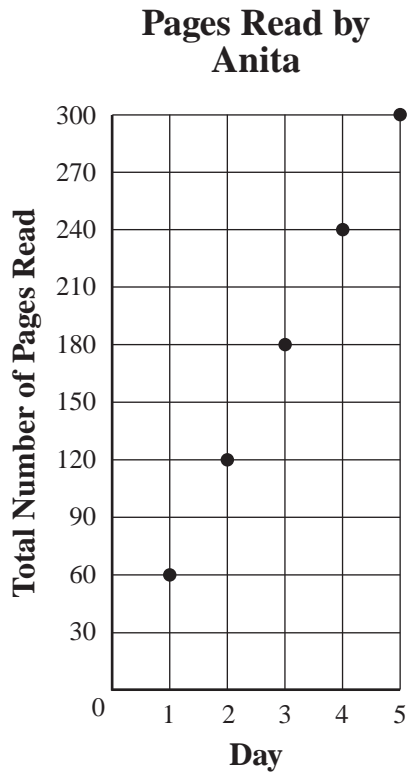
What is the relationship between the number of pages Anita read each day and the number of
pages Jerry read each day?

A. Anita read half the number of pages Jerry read each day.

B. Anita read the same number of pages Jerry read each day.

C. Anita read two times the number of pages Jerry read each day.

D. Anita read three times the number of pages Jerry read each day.

Grade 6 Mathematics
Spring 2010 Released Items:
Reporting Categories, Standards, and Correct Answers*

Item No.	Page No.	Reporting Category	Standard	Correct Answer (MC/SA)*
1	182	*Number Sense and Operations*	6.N.2	C
2	182	*Number Sense and Operations*	6.N.13	B
3	183	*Patterns, Relations, and Algebra*	6.P.1	C
4	183	*Patterns, Relations, and Algebra*	6.P.7	C
5	184	*Number Sense and Operations*	6.N.9	$3.75
6	185	*Number Sense and Operations*	6.N.15	C
7	185	*Patterns, Relations, and Algebra*	6.P.4	D
8	186	*Patterns, Relations, and Algebra*	6.P.6	D
9	187	*Patterns, Relations, and Algebra*	6.P.5	B
10	187	*Number Sense and Operations*	6.N.6	A
11	188	*Geometry*	6.G.2	
12	189	*Number Sense and Operations*	6.N.11	D
13	189	*Number Sense and Operations*	6.N.4	D
14	189	*Patterns, Relations, and Algebra*	6.P.3	B
15	189	*Number Sense and Operations*	6.N.7	C
16	190	*Patterns, Relations, and Algebra*	6.P.2	17
17	190	*Measurement*	6.M.1	10 square feet
18	191	*Data Analysis, Statistics, and Probability*	6.D.1	
19	192	*Number Sense and Operations*	6.N.14	C
20	192	*Measurement*	6.M.6	A
21	193	*Patterns, Relations, and Algebra*	6.P.6	C

* Answers are provided here for multiple-choice items and short-answer items only. Sample responses and scoring guidelines for open-response items, which are indicated by shaded cells, will be posted to the Department's website later this year.