MASSACHUSETTS COMPREHENSIVE ASSESSMENT SYSTEM

PRACTICE TEST Mathematics

Grade 4

Student Name

School Name

District Name



Grade 4 Mathematics SESSION 1

This session contains 7 questions.

You may **not** use a calculator during this session.



Directions

Read each question carefully and then answer it as well as you can. You must record all answers in this Practice Test Booklet.

For some questions, you will mark your answers by filling in the circles in your Practice Test Booklet. Make sure you darken the circles completely. Do not make any marks outside of the circles. If you need to change an answer, be sure to erase your first answer completely.

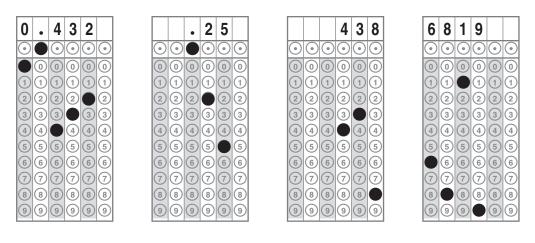
For other questions, you will need to fill in an answer grid. Directions for completing questions with answer grids are provided on the next page.

If a question asks you to show or explain your work, you must do so to receive full credit. Write your response in the space provided. Only responses written within the provided space will be scored.

Directions for Completing Questions with Answer Grids

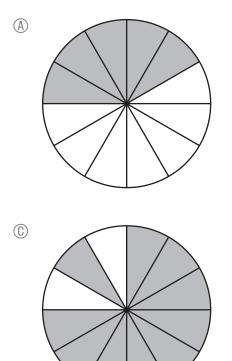
- 1. Work the question and find an answer.
- 2. Enter your answer in the answer boxes at the top of the answer grid.
- 3. Print only one number or symbol in each box. Do not leave a blank box in the middle of an answer.
- 4. Under each answer box, fill in the circle that matches the number or symbol you wrote above. Make a solid mark that completely fills the circle.
- 5. Do not fill in a circle under an unused answer box.
- 6. If you need to change an answer, be sure to erase your first answer completely.
- 7. See below for examples of how to correctly complete an answer grid.

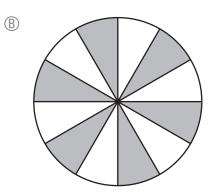
EXAMPLES

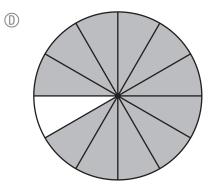




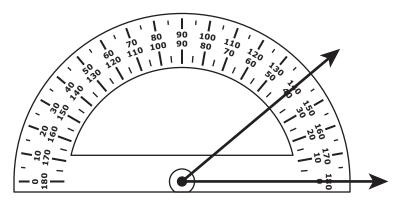
In which of these fraction models do the shaded parts represent the fraction of the pizza the family ate?



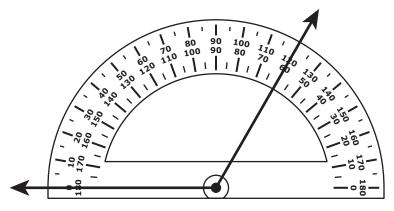








Angle A



Angle B

Which of these shows the measures of angle A and angle B?

- A angle A: 40° angle angle B: 60° angle
- © angle A: 140° angle angle B: 120° angle

- B angle A: 40° angle angle B: 120° angle
- D angle A: 60° angle angle B: 140° angle



- A student colors 5 sections.
- Then the student colors 4 more sections.

Which of these expressions represent the total fraction of the rectangle that the student colors?

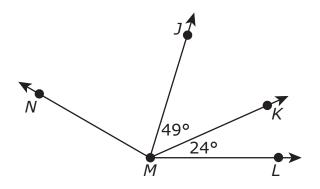
Select the **two** correct answers.

- A 5 + 4
- (B) $\frac{5}{12} + \frac{4}{12}$
- (1) $\frac{1}{12} + 5 + 4$
- $\textcircled{E} \quad \frac{1}{12} + \frac{1}{12}$

This question has two parts.



The measures of two angles are labeled in this diagram.



Part A

Which equation can be used to find the measure, in degrees, of angle JML?

- A 24 + 49 = 73
- B 25 + 49 = 74
- ① 49 24 = 25
- ① 49 25 = 24

Part B

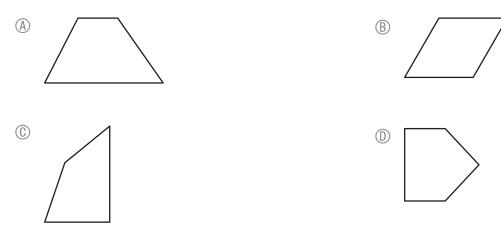
The sum of the measures of angle *NMJ* and angle *JMK* is 125°.

What is the measure, in degrees, of angle NMJ?

Enter your answer in the answer boxes at the top of the answer grid **and** completely fill the matching circles.

•	\odot	\bigcirc	\bigcirc	\bigcirc	\odot

5 Which of these figures appears to have at least two sides that are parallel **and** at least two sides that are perpendicular?



Use your ruler to answer question 6.



A teacher drew a rectangle on the board, as shown.



What is the area, in square inches, of the rectangle the teacher drew?

Enter your answer in the answer boxes at the top of the answer grid **and** completely fill the matching circles.

\odot	\odot	\odot	\odot	\odot	\odot
0	0	0	0	0	0
1	1	1	1	1	1
2	2	2	2	2	2
3	3	3	3	3	3
4	4	4	4	4	4
5	5	5	5	5	5
6	6	6	6	6	6
7	7	7	7	7	7
8	8	8	8	8	8
9	9	9	9	9	9

• A student wrote the expression shown.

$$\frac{6}{10} + \frac{7}{100}$$

Which of the following is equivalent to the expression the student wrote?

(A)
$$\frac{6}{10} + \frac{7}{10}$$

(B) $\frac{60}{10} + \frac{7}{100}$
(C) $\frac{60}{100} + \frac{7}{100}$
(D) $\frac{60}{100} + \frac{70}{100}$



Grade 4 Mathematics SESSION 2

This session contains 8 questions.

You may **not** use a calculator during this session.



Directions

Read each question carefully and then answer it as well as you can. You must record all answers in this Practice Test Booklet.

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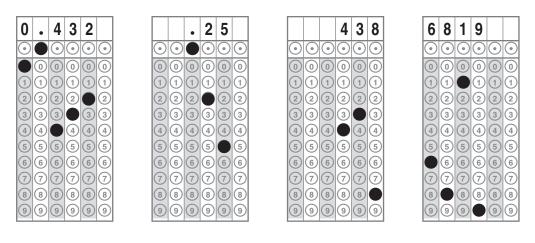
For other questions, you will need to fill in an answer grid. Directions for completing questions with answer grids are provided on the next page.

If a question asks you to show or explain your work, you must do so to receive full credit. Write your response in the space provided. Only responses written within the provided space will be scored.

Directions for Completing Questions with Answer Grids

- 1. Work the question and find an answer.
- 2. Enter your answer in the answer boxes at the top of the answer grid.
- 3. Print only one number or symbol in each box. Do not leave a blank box in the middle of an answer.
- 4. Under each answer box, fill in the circle that matches the number or symbol you wrote above. Make a solid mark that completely fills the circle.
- 5. Do not fill in a circle under an unused answer box.
- 6. If you need to change an answer, be sure to erase your first answer completely.
- 7. See below for examples of how to correctly complete an answer grid.

EXAMPLES



8 Which of these comparisons are correct?

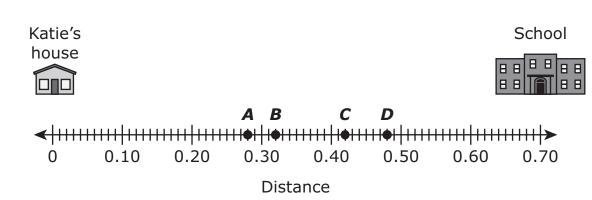
Select the **three** correct answers.

- A 2.09 < 2.12</p>
- B 2.09 > 2.12
- © 8.10 > 8.1
- ③ 8.10 = 8.1
- (E) 6.45 > 6.7
- € 6.45 < 6.7

9 Krista has 32 crayons. Devon has 4 times as many crayons as Krista.

Which equation can be used to find d, the total number of crayons that Devon has?

- (A) $d = 32 \div 4$
- (c) $4 = 32 \div d$
- $\textcircled{D} \quad 32 = 4 \times d$



She passes a bakery on her way to school. The bakery is 0.28 mile from the school.

Which point on the number line represents the location of the bakery?

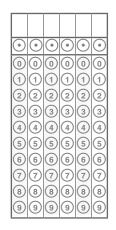
- (A) point A
- B point B
- © point C
- D point D

10 Katie's house is 0.70 mile from her school, as shown on this number line.

1 Find the product.

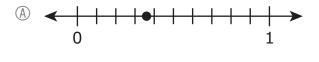
65 × 98

Enter your answer in the answer boxes at the top of the answer grid **and** completely fill the matching circles.



12

Which of these number lines has a point that represents the location of 0.36?









1 A scientist measured the lengths of seeds from different plants. The lengths, in inches, of the seeds the scientist measured are shown in this list.

$$\frac{7}{8}, \frac{3}{8}, \frac{1}{8}, \frac{7}{8}, \frac{3}{8}, \frac{1}{8}, \frac{3}{8}, \frac{3}{8}, \frac{3}{8}, \frac{5}{8}, \frac{7}{8}, \frac{7}{8}, \frac{1}{8}$$

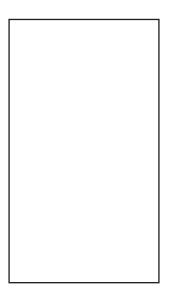
Which line plot shows the lengths, in inches, of the seeds from different plants?

Plant Seed Lengths Plant Seed Lengths (\mathbb{A}) (B) Χ Χ Χ Χ Χ Χ Х Χ Χ Χ Χ Χ Χ Χ Χ Χ Χ Χ Χ ++ \rightarrow + + \rightarrow ++ $\frac{1}{8}$ $\frac{2}{8}$ <u>3</u> 8 $\frac{4}{8}$ <u>5</u> 8 <u>6</u> 8 $\frac{7}{8}$ $\frac{1}{8}$ <u>2</u> 8 <u>3</u> 8 $\frac{4}{8}$ <u>5</u> 8 $\frac{6}{8}$ $\frac{7}{8}$ Length of Seeds Length of Seeds (inches) (inches) **Plant Seed Lengths Plant Seed Lengths** (0) (\mathbb{D}) X Х Χ Χ Х Χ Χ Χ Χ Χ Χ Χ Χ Χ Χ Χ Χ Χ Χ Χ Χ Χ Χ Χ -+-+ ++ + \rightarrow ++4 \rightarrow + $\frac{1}{8}$ <u>2</u> 8 <u>3</u> 8 $\frac{4}{8}$ <u>5</u> 8 <u>6</u> 8 <u>2</u> 8 <u>3</u> 8 $\frac{4}{8}$ <u>5</u> 8 <u>7</u> 8 $\frac{7}{8}$ $\frac{1}{8}$ <u>6</u> 8 Length of Seeds Length of Seeds (inches) (inches)

Use your ruler to answer question 14.



14 A student drew this rectangle.



What is the perimeter, in centimeters, of the rectangle the student drew?

Enter your answer in the answer boxes at the top of the answer grid **and** completely fill the matching circles.

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3	\frown	3	3	3	3
\simeq	\leq	Š	\simeq	Š	\leq
6	6	6	6	6	6
7	7	7	7	7	7
8	8	8	8	8	8

This question has four parts. Be sure to label each part of your response.

15 Carl sold cookies and pies at a bake sale to earn money.

- A bag of cookies sells for \$3.
- A pie sells for \$8.

Carl sold 4 bags of cookies and 2 pies during the first hour of the bake sale.

A. What is the total amount of money, in dollars, Carl earned during the first hour of the bake sale? Show or explain how you got your answer.

Ms. O'Hara bought 2 bags of cookies and 1 pie from Carl. She paid with a \$20 bill.

B. What is the total amount of change, in dollars, Ms. O'Hara should receive? Show or explain how you got your answer.

Vanessa sold cakes at the same bake sale.

- Mr. Stanley bought 1 bag of cookies and 2 pies from Carl.
- Mr. Stanley also spent \$11 to buy a cake from Vanessa at the bake sale.
- C. Write an equation to show m, the total amount of money, in dollars, Mr. Stanley spent at the bake sale.
- D. Solve the equation you wrote in Part C to find the total amount of money, in dollars, Mr. Stanley spent at the bake sale. Show your work.

Write your answers on the next page.

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