PRACTICE TEST

Mathematics

Grade 6

Student Name

School Name

District Name

MASSACHUSETTS DEPARTMENT OF
ELEMENTARY AND SECONDARY
EDUCATION

Grade 6 Mathematics
SESSION 1

This session contains 5 questions.

You may use your reference sheet during this session.
*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 your Practice Test Answer Document.

For some questions, you will mark your answers by filling in the circles in your Practice Test Answer Document. 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 in your Practice Test Answer Document. Only responses written within the provided space will be scored.

Go On ➡

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. Fractions cannot be entered into an answer grid and will not be scored. Enter fractions as decimals.

7. If you need to change an answer, be sure to erase your first answer completely.

8. See below for examples of how to correctly complete an answer grid.

EXAMPLES

Go On ➡

1 Ms. Nelson needs $5\frac{1}{2}$ yards of fabric to make 2 identical dresses. How much fabric is needed to make **each** dress?

A. $2\frac{3}{4}$ yards

B. $2\frac{7}{8}$ yards

C. 3 yards

D. 11 yards

2 Marvin surveyed his classmates to find out their favorite sports. Each classmate chose only one sport. The results of his survey are represented in this circle graph.

Classmates' Favorite Sports
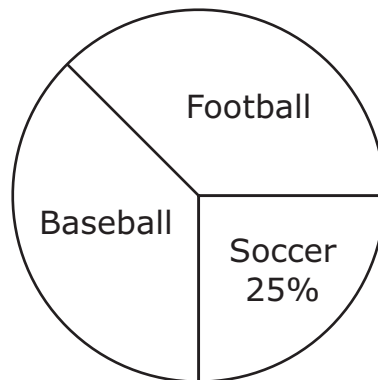
In all, Marvin surveyed 48 of his classmates. An equal number of Marvin's classmates chose baseball and football. Based on the circle graph, what is the total number of classmates who chose baseball as their favorite sport?

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

Go On ➡

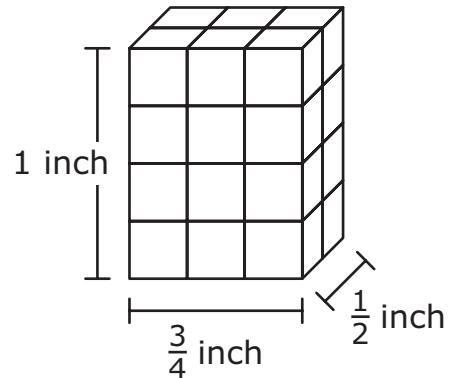**3**   This coordinate plane shows the location of point *W*.
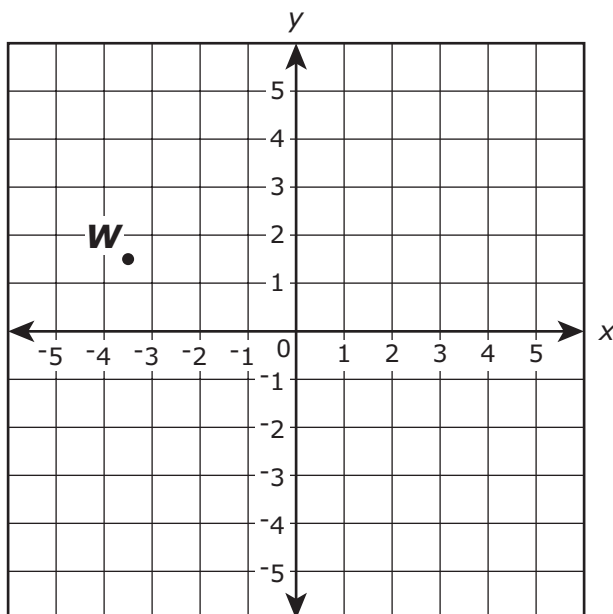
What is the value of the *x*-coordinate of point *W*? Enter your answer as a decimal to the nearest 0.5.

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

This question has two parts.

4 This right rectangular prism is built with small cubes.

Part A

What is the volume, in cubic inch(es), of the right rectangular prism?

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

B. $\frac{2}{3}$

C. $1\frac{2}{3}$

D. $2\frac{1}{4}$

Part B

What is the volume, in cubic inch(es), of 1 of the small cubes?

A. $\frac{1}{64}$

B. $\frac{1}{16}$

C. $\frac{9}{16}$

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

Go On ➡

5 A class of 25 students shares a class set of 100 markers. On a day with 5 students absent, which statement is true?

A. For every 5 students, there is 1 marker.

B. For every 4 students, there is 1 marker.

C. For each student, there are 4 markers.

D. For each student, there are 5 markers.

STOP!

Grade 6 Mathematics
SESSION 2

This session contains 5 questions.

You may use your reference sheet during this session.
*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 your Practice Test Answer Document.

For some questions, you will mark your answers by filling in the circles in your Practice Test Answer Document. 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 in your Practice Test Answer Document. Only responses written within the provided space will be scored.

Go On ➡

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. Fractions cannot be entered into an answer grid and will not be scored. Enter fractions as decimals.

7. If you need to change an answer, be sure to erase your first answer completely.

8. See below for examples of how to correctly complete an answer grid.
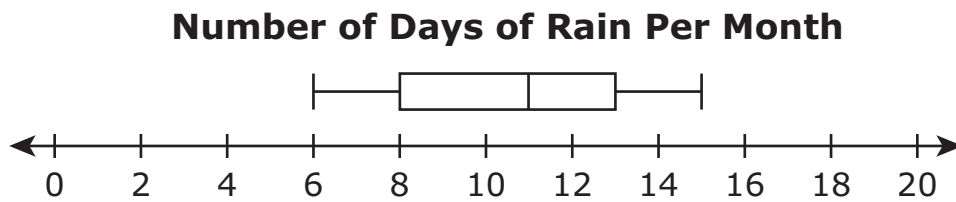
EXAMPLES

6 Luke recorded the number of days it rained each month for 12 months. He made a box plot to represent the data, as shown.

Number of Days of Rain Per Month

What is the interquartile range of the data in Luke's box plot?

A. 11

B. 9

C. 8

D. 5

7 Which of the following equations with exponential expressions are true?

Select the **three** correct expressions.

A. $2^3 = 2 \cdot 2 \cdot 2$

B. $3^2 = 2 \cdot 2$

C. $4^5 = 4 \cdot 4 \cdot 4 \cdot 4 \cdot 4$

D. $5 \cdot 5 = 2^5$

E. $6 \cdot 6 \cdot 6 = 6^3$

F. $7 \cdot 7 \cdot 7 \cdot 7 \cdot 7 \cdot 7 \cdot 7 = 7^1$

Go On ➡

8   A right triangle and its dimensions are shown in this diagram.

10 meters | 26 meters
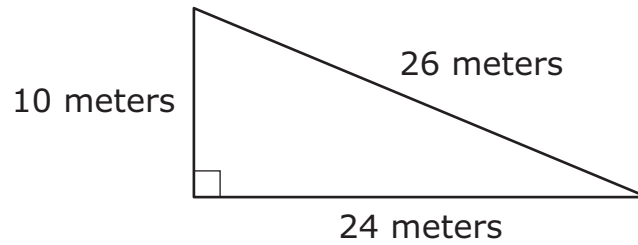
24 meters

What is the area, in square meters, of the triangle?

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

9   Which question is a statistical question?

A. How tall is the oak tree?

B. How much did the tree grow in one year?

C. What are the heights of the oak trees in the schoolyard?

D. What is the difference in height between the oak tree and the pine tree?

This question has four parts.

10 Lily wrote the expression shown in this box.

$$6x - 3$$

Part A

What is the coefficient of the variable in Lily's expression?

Enter your coefficient in the space provided.

Part B

What is the value of Lily's expression when $x = 5$? Show or explain how you got your answer.

Enter your answer and your work or explanation in the space provided.

Part C

Pedro wrote an expression that is equivalent to the statement shown in this box.

8 more than the difference of $2x$ and 1

What could be the expression that Pedro wrote?

Enter your expression in the space provided.

Part D

What is the difference of the value of Lily's expression when $x = 5$ and the value of Pedro's expression when $x = 5$? Show or explain how you got your answer.

Enter your answer and your work or explanation in the space provided.

MASSACHUSETTS COMPREHENSIVE ASSESSMENT SYSTEM

Grade 6 Mathematics
Practice Test Answer Document

School Name: _____

District Name: _____

Last Name of Student: _____

First Name of Student: _____

MARKING INSTRUCTIONS

• Use a No. 2 pencil only.

• Do not use ink, ballpoint, or felt-tip pens.

• Make solid marks that fill the circles completely.

• Erase cleanly any marks you wish to change.

• Do not make any stray marks on this form.

• Do not fold, tear, or damage this form.

1. Ⓐ Ⓑ Ⓒ Ⓓ

2.

⊖						
⊙	⊙	⊙	⊙	⊙	⊙	⊙
0	0	0	0	0	0	0
1	1	1	1	1	1	1
2	2	2	2	2	2	2
3	3	3	3	3	3	3
4	4	4	4	4	4	4
5	5	5	5	5	5	5
6	6	6	6	6	6	6
7	7	7	7	7	7	7
8	8	8	8	8	8	8
9	9	9	9	9	9	9

3.

⊖						
⊙	⊙	⊙	⊙	⊙	⊙	⊙
0	0	0	0	0	0	0
1	1	1	1	1	1	1
2	2	2	2	2	2	2
3	3	3	3	3	3	3
4	4	4	4	4	4	4
5	5	5	5	5	5	5
6	6	6	6	6	6	6
7	7	7	7	7	7	7
8	8	8	8	8	8	8
9	9	9	9	9	9	9

4. **Part A** Ⓐ Ⓑ Ⓒ Ⓓ   **Part B** Ⓐ Ⓑ Ⓒ Ⓓ

5. Ⓐ Ⓑ Ⓒ Ⓓ

STOP!

6. Ⓐ Ⓑ Ⓒ Ⓓ

7. Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ Ⓕ

8.

⊖						
⊙	⊙	⊙	⊙	⊙	⊙	⊙
⓪	⓪	⓪	⓪	⓪	⓪	⓪
①	①	①	①	①	①	①
②	②	②	②	②	②	②
③	③	③	③	③	③	③
④	④	④	④	④	④	④
⑤	⑤	⑤	⑤	⑤	⑤	⑤
⑥	⑥	⑥	⑥	⑥	⑥	⑥
⑦	⑦	⑦	⑦	⑦	⑦	⑦
⑧	⑧	⑧	⑧	⑧	⑧	⑧
⑨	⑨	⑨	⑨	⑨	⑨	⑨

9. Ⓐ Ⓑ Ⓒ Ⓓ

Go On ➡

10. Part A

10. Part B

Go On ➡

10. Part C

10. Part D

STOP!