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### III. Mathematics Retest

# Mathematics Retest

The Mathematics Retest was based on learning standards in the Massachusetts *Mathematics Curriculum Framework* (2000). The *Framework* identifies five major content strands, listed below.

- Number Sense and Operations
- Patterns, Relations, and Algebra
- Geometry
- Measurement
- Data Analysis, Statistics, and Probability

The grades 9–10 learning standards for these strands appear on pages 72–75 of the *Mathematics Curriculum Framework*, which is available on the Department Web site at [www.doe.mass.edu/frameworks/current.html](http://www.doe.mass.edu/frameworks/current.html).

In Test Item Analysis Reports, Mathematics retest results are reported under five MCAS reporting categories, which are identical to the five *Mathematics Curriculum Framework* content strands listed above.

## Test Sessions

The Mathematics Retest included two separate test sessions, which were administered on consecutive days. Each session included multiple-choice and open-response items. Session 1 also included short-answer questions.

## Reference Materials and Tools

Each student taking the Mathematics Retest was provided with a Grade 10 Mathematics Reference Sheet and was allowed to refer to it at any time during testing. A copy of the reference sheet follows the final question in this chapter.

During session 2, each student had sole access to a calculator with at least four functions and a square root key. Calculator use was not allowed during session 1.

The use of bilingual word-to-word dictionaries was allowed for limited English proficient students only during both Mathematics retest sessions. No other reference tools or materials were allowed.

## Cross-Reference Information

The table at the conclusion of this chapter indicates each item’s reporting category and the *Framework* learning standard it assesses. The correct answers for multiple-choice and short-answer items are also displayed in the table.

# Mathematics

## SESSION 1

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



### DIRECTIONS

This session contains fourteen multiple-choice questions, four short-answer questions, and three open-response questions. Mark your answers to these questions in the spaces provided in your Student Answer Booklet.

- 1 What is the value of the expression below?

$$3(4^2 - 2)$$

- A. 18
- B. 22
- C. 42
- D. 46

- 2 Jamison is taking a friend to the movies. He wants to estimate the amount of money he will need for tickets, large bags of popcorn, and large cups of soda. The prices are shown below.

Ticket	\$7.75
Large bag of popcorn	\$3.85
Large cup of soda	\$2.65

Which of the following is closest to the amount of money Jamison will need for 2 tickets, 2 large bags of popcorn, and 2 large cups of soda?

- A. \$34
- B. \$30
- C. \$24
- D. \$20

- 3 Which of the following is equivalent to the expression below?

$$x^2 + 3x - 5x^2 + 6$$

- A.  $-4x^2 + 3x + 6$   
B.  $4x^2 + 3x + 6$   
C.  $x^2 - 2x + 6$   
D.  $x^2 + 2x + 6$

- 4 Each week, Shanice deposits a total of \$50 into her checking account and does not withdraw any money. Her account does not earn interest. At the end of 3 weeks, the total amount of money in Shanice's account was \$170.

Which of the following equations represents  $y$ , the total amount of money in Shanice's account at the end of  $x$  weeks?

- A.  $y = 50x + 20$   
B.  $y = 20x + 50$   
C.  $y = 50x - 20$   
D.  $y = 20x - 50$

- 5 Which of the following is closest to the value of  $\sqrt{72}$ ?

- A. 8.1  
B. 8.5  
C. 8.9  
D. 9.3

- 6 What is the value of  $x$  in the solution to the following system of equations?

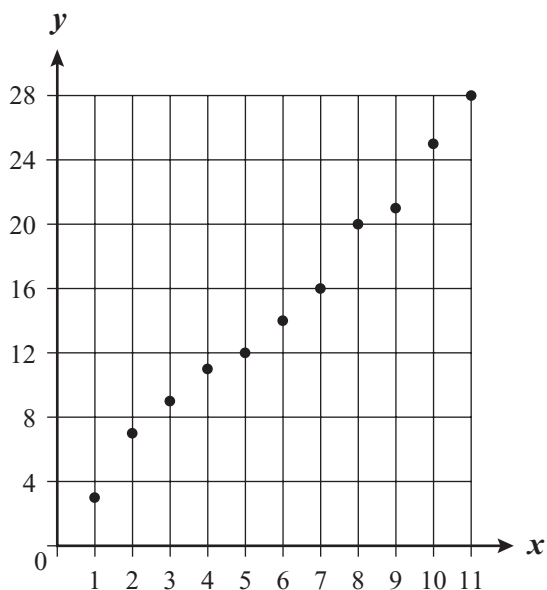
$$\begin{aligned}x + y &= 5 \\2x + 6y &= 22\end{aligned}$$

- A.  $x = 4$   
B.  $x = 3$   
C.  $x = 2$   
D.  $x = 1$

7 Which of the following sets of data has a median of 17.5?

- A. {10.0, 17.5, 14.0, 16.0, 27.5}
- B. {12.5, 26.0, 17.5, 11.5, 10.5}
- C. {13.0, 17.5, 15.0, 15.5, 17.5}
- D. {14.5, 19.5, 16.0, 17.5, 24.0}

8 Which of the following equations best represents the line of best fit for the data shown in the scatterplot below?



- A.  $y = -2.5x + 1$
- B.  $y = 2.5x + 1$
- C.  $y = -0.6x + 1$
- D.  $y = 0.6x + 1$

9 Which of the following shows the expression below in factored form?

$$4y^3 + 6y^2 - 14y$$

- A.  $2y(2y^2 + 3y - 7)$
- B.  $4y(y^2 + 2y - 10)$
- C.  $2y^2(2y + 3 - 7y)$
- D.  $4y^2(y + 2 - 10y)$

10 What is the value of the expression below?

$$4|3 - 5|$$

- A. -32
- B. -8
- C. 8
- D. 32

- 11 What is the value of the expression below?

$$\left(\sqrt[3]{125}\right)^3$$

- A. 5
- B. 25
- C. 75
- D. 125

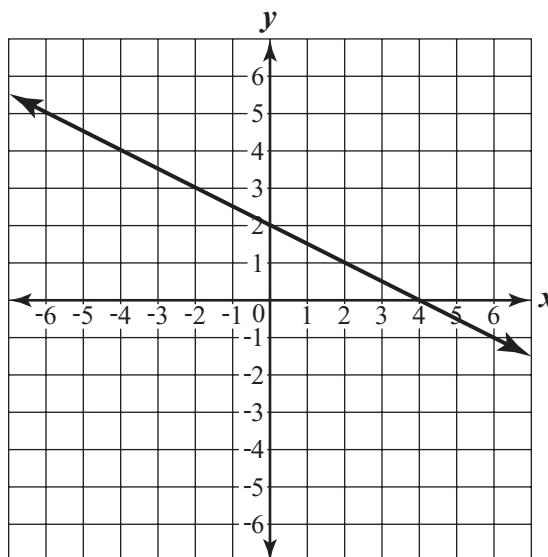
- 12 The table below shows a relationship between values of  $x$  and  $y$ .

$x$	1	2	3	4
$y$	3	10	29	66

Which of the following equations describes the relationship between  $x$  and  $y$  for the values in the table?

- A.  $y = 3x$
- B.  $y = 3x + 4$
- C.  $y = x^2 + 2$
- D.  $y = x^3 + 2$

- 13 Which of the following best represents the slope and  $y$ -intercept of the line on the coordinate grid below?



- A. slope =  $-\frac{1}{2}$ ;  $y$ -intercept = 2
  - B. slope =  $\frac{1}{2}$ ;  $y$ -intercept = 2
  - C. slope =  $-\frac{1}{2}$ ;  $y$ -intercept = 4
  - D. slope =  $\frac{1}{2}$ ;  $y$ -intercept = 4
- 14 If  $x > 0$ , which of the following is closest to the value of  $x$  that makes the equation below true?

$$2x^2 = 40$$

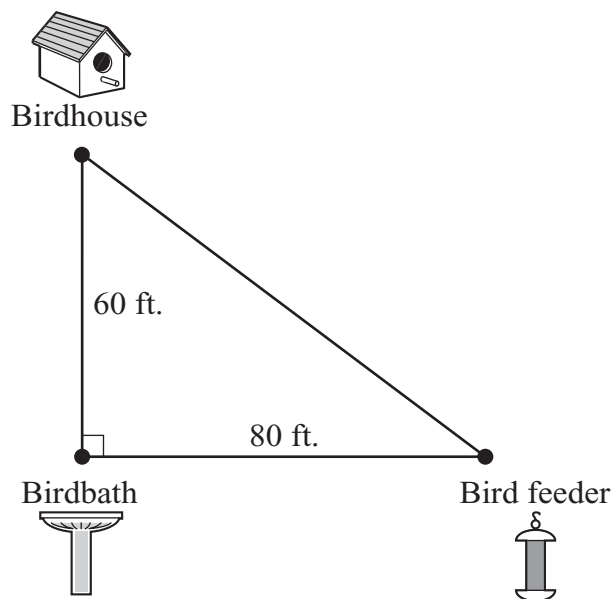
- A. 3.2
- B. 4.5
- C. 6.3
- D. 8.9

Questions 15 and 16 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.

- 15 A box in the shape of a right rectangular prism has a volume of 60 cubic inches. The height of the box is 3 inches, and the width is 4 inches.

What is the length, in inches, of the box?

- 16 Brian set up a birdhouse, a birdbath, and a bird feeder in his backyard. The vertices of the triangle shown below represent the locations of these three objects in his backyard.



Based on the distances shown, what is the distance, in feet, between the birdhouse and the bird feeder?

Question 17 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 17 in the space provided in your Student Answer Booklet.

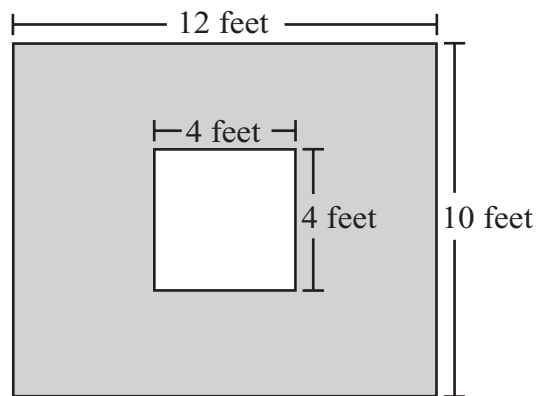
- 17** Laurie's parents gave her \$25 to open a checking account. At the end of each week after the account was opened, Laurie deposited \$20 into her checking account. No other money was deposited into or withdrawn from the checking account.
- What was the total amount of money in Laurie's checking account at the end of week 5? Show or explain how you got your answer.
  - On the grid in your Student Answer Booklet, plot six points with coordinates  $(x, y)$ , in which  $x$  and  $y$  are defined as follows:
    - $x$  = the number of weeks since the account was opened (in whole numbers from 0 through 5), where  $x = 0$  corresponds to the opening of the account
    - $y$  = the total amount of money in the account at the end of week  $x$Be sure to label the  $x$ -axis and  $y$ -axis, indicate the scale on each axis, and include a title for your graph.
  - Write an equation that represents the line that passes through all the points plotted in part (b). Show or explain how you determined your equation.
  - For the line represented by your equation in part (c), explain the meaning of the  $y$ -intercept in the context of this problem.

Questions 18 and 19 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.

- 18 What is the value of  $x$  that makes the linear equation below true?

$$3x - 5 = 2(x + 3)$$

- 19 The diagram below shows a square in the interior of a rectangle.



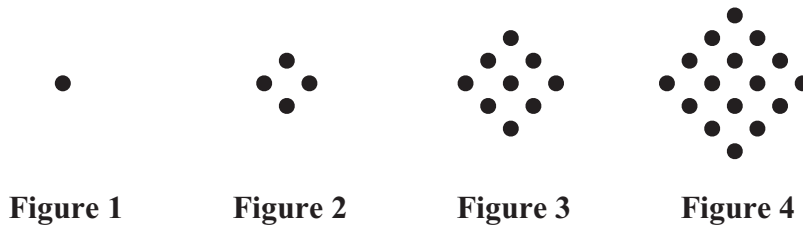
Based on the dimensions in the diagram, what is the area, in square feet, of the shaded region of the rectangle?

Questions 20 and 21 are open-response questions.

- **BE SURE TO ANSWER AND LABEL ALL PARTS OF EACH 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 20 in the space provided in your Student Answer Booklet.

**20** The dots shown below represent the first four figures in a quadratic pattern.



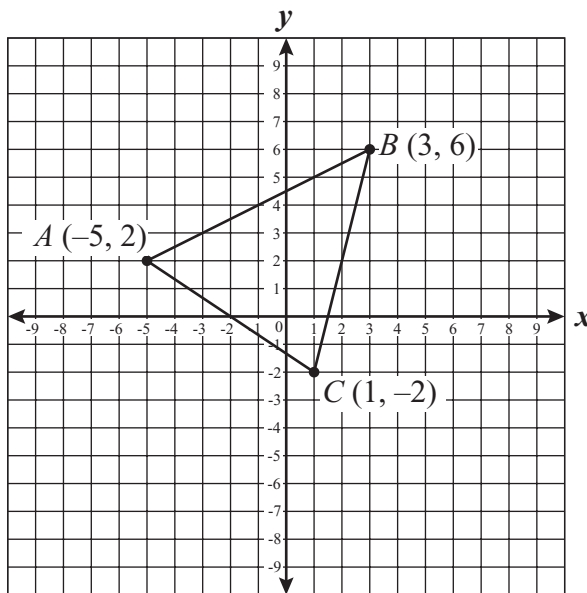
The table below shows the number of dots needed for each of Figures 1 through 4.

Number of Dots per Figure								
Figure Number	1	2	3	4	5	6	7	8
Number of Dots	1	4	9	16				

- Copy the table into your Student Answer Booklet. Complete your table by writing the number of dots needed for each of Figures 5 through 8. Show or explain how you got each of your answers.
- Based on the pattern, what number of dots will be needed for Figure  $n$ ? Show or explain how you got your answer.
- What number of dots will be needed for Figure 20? Show or explain how you got your answer.
- If Figure  $n$  has **exactly** 225 dots, what is the value of  $n$ ? Explain your reasoning.

Write your answer to question 21 in the space provided in your Student Answer Booklet.

- 21 Triangle  $ABC$  and the coordinates of each vertex of the triangle are shown on the coordinate grid below.



- Let  $M$  be the midpoint of  $\overline{AC}$ . What are the coordinates of  $M$ ? Show your work.
- Let  $N$  be the midpoint of  $\overline{BC}$ . What are the coordinates of  $N$ ? Show your work.
- What is the length of  $\overline{MN}$ ? Show your work. (You may leave your answer as a square root of a number.)
- What is the slope of the line that contains both point  $M$  and point  $N$ ? Show your work.
- Write an equation representing the line that contains both point  $M$  and point  $N$ . Show your work.

# Mathematics

## SESSION 2

*You may use your reference sheet during this session.*

*You may use a calculator during this session.*



### DIRECTIONS

**This session contains eighteen multiple-choice questions and three open-response questions. Mark your answers to these questions in the spaces provided in your Student Answer Booklet.**

- 22** The number of hours Nadia spent painting each day during a one-week period are shown below.

1.5, 4.25, 1.0, 3.75, 6.0, 0.75, 0.25
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What is the mean number of hours per day that Nadia spent painting for this week?

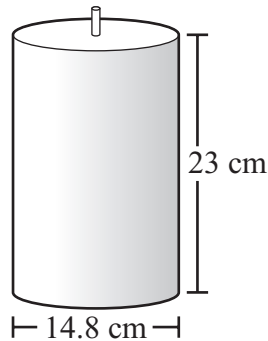
- A. 1.5
- B. 2.5
- C. 3.75
- D. 5.75

- 23** A stadium has seats that are arranged into sections. In each section, the seats are arranged into rows. There are 11 sections, 7 rows in each section, and 10 seats in each row.

At a baseball game in the stadium, all of the seats are occupied. A seat will be chosen at random, and a prize will be awarded to the person sitting in that seat. If Hoda is sitting in one of the seats, what is the probability that she will win the prize?

- A.  $\frac{1}{770}$
- B.  $\frac{3}{770}$
- C.  $\frac{1}{28}$
- D.  $\frac{3}{28}$

- 24 A candle in the shape of a right circular cylinder is pictured below.



Based on the dimensions shown in the picture, which of the following is closest to the lateral surface area of the candle?

- A.  $46 \text{ cm}^2$
  - B.  $170 \text{ cm}^2$
  - C.  $1100 \text{ cm}^2$
  - D.  $4000 \text{ cm}^2$
- 25 If  $x \neq 0$ , which of the following expressions belongs in the box below to make the equation true?

$$(-2x) \cdot \boxed{?} = 1$$

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

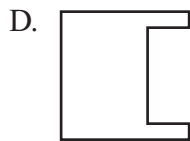
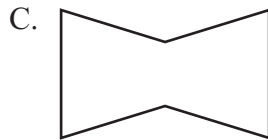
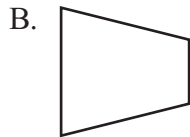
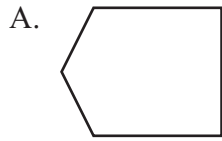
- 26 Hector made a scale drawing of the front of a building.

- The front of the actual building is in the shape of a rectangle with a height of 21 feet and a width of 15 feet.
- The height of the building in Hector's drawing is 3.5 inches, and the width is 2.5 inches.

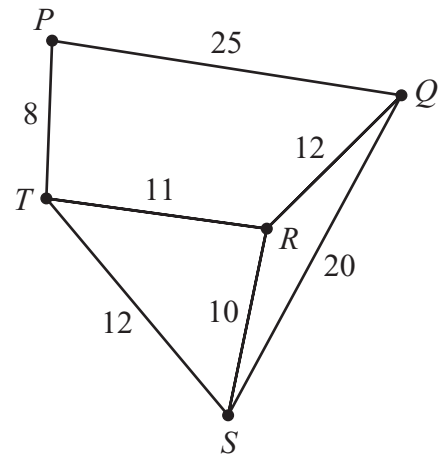
What scale factor did Hector use in his scale drawing?

- A. 1 inch : 2 feet
- B. 1 inch : 4.3 feet
- C. 1 inch : 6 feet
- D. 1 inch : 8.4 feet

- 27 Which of the following figures appears to have 2 lines of symmetry?



- 28 The diagram below represents five of Gina's classrooms and the paths between them. The classrooms are labeled  $P$ ,  $Q$ ,  $R$ ,  $S$ , and  $T$ . The length, in yards, of each path is shown.



Gina needs to pick up homework assignments from each of the five classrooms. She begins at classroom  $P$ .

What is the minimum distance she can walk along the paths so that she stops once at each of the remaining four classrooms without taking any path more than once?

- A. 31 yards
- B. 42 yards
- C. 49 yards
- D. 59 yards

- 29 Which of the following is equivalent to the expression below?

$$(3x + 2)(x + 1)$$

- A.  $3x^2 + 2$
- B.  $4x^2 + 3$
- C.  $3x^2 + 5x + 2$
- D.  $4x^2 + 5x + 2$

- 30 Which of the following is closest to the area of a circle that has a diameter of 8 centimeters?

- A.  $12.56 \text{ cm}^2$
- B.  $25.12 \text{ cm}^2$
- C.  $50.24 \text{ cm}^2$
- D.  $200.96 \text{ cm}^2$

Question 31 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 31 in the space provided in your Student Answer Booklet.

- 31** Aimee, Darlene, Percy, and Sinclair went bowling. Their scores for 4 games are shown in the table below.

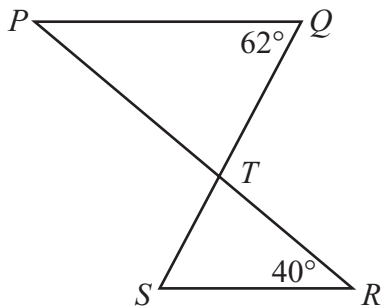
**Bowling Scores**

Name	Scores			
	Game 1	Game 2	Game 3	Game 4
Aimee	165	140	170	130
Darlene	120	140	125	140
Percy	115	130	160	160
Sinclair	150	150	150	165

- What is the range of Aimee's scores for the 4 games? Show or explain how you got your answer.
- Who had the greatest median score for the 4 games? Show or explain how you got your answer.
- Who had the greatest mean score for the 4 games? Show or explain how you got your answer.
- After Darlene bowled 2 more games, her mean score for all 6 games was 135. What could her scores for each of those 2 games have been? Show or explain how you got your answer.

Mark your answers to multiple-choice questions 32 through 40 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.

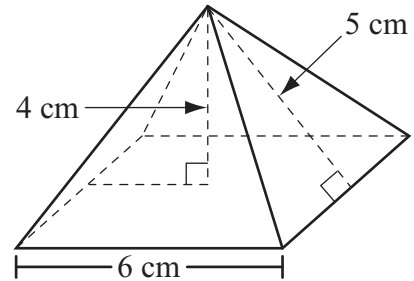
- 32 In the figure below,  $\overline{PQ} \parallel \overline{SR}$ , and  $\overline{PR}$  and  $\overline{QS}$  intersect at point  $T$ .



Based on the angle measures in the figure, what is the measure of  $\angle STR$ ?

- A.  $62^\circ$
- B.  $78^\circ$
- C.  $102^\circ$
- D.  $118^\circ$

- 33 A right square pyramid and its dimensions are shown below.

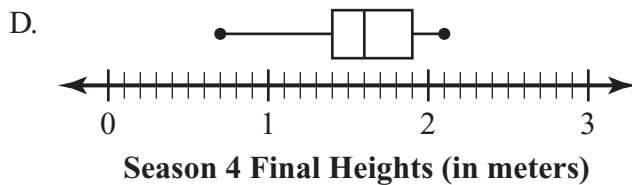
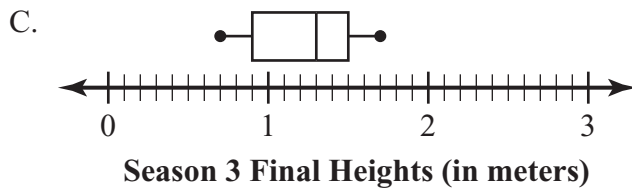
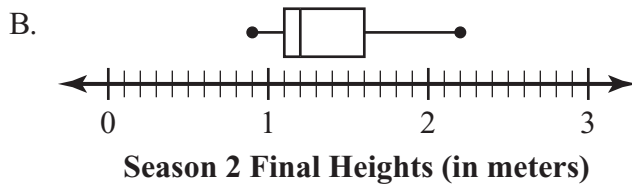
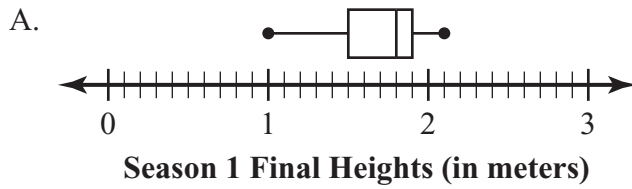


What is the volume of the right square pyramid?

- A.  $40 \text{ cm}^3$
- B.  $48 \text{ cm}^3$
- C.  $60 \text{ cm}^3$
- D.  $144 \text{ cm}^3$

- 34 A researcher collected data on the final heights of corn plants. The data were collected from one farm over four growing seasons. He drew box-and-whisker plots to represent the data he collected for each growing season.

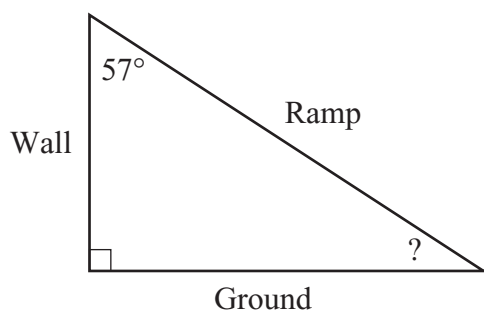
Which of the following box-and-whisker plots shows the **greatest** median final height?



- 35 Which of the following is the solution to the inequality below?

$$3 - 2x \leq 7$$

- A.  $x \leq -2$   
B.  $x \geq -2$   
C.  $x \leq -5$   
D.  $x \geq -5$
- 36 Martin uses a ramp to practice skateboarding. The ramp leans against a wall. The right triangle formed by the ramp, the wall, and the ground is represented by the diagram below.



The measure of the angle formed by the wall and the ramp is  $57^\circ$ . What is the measure of the angle formed by the ramp and the ground?

- A.  $33^\circ$   
B.  $43^\circ$   
C.  $93^\circ$   
D.  $123^\circ$

- 37 Elaine's summer job earnings were \$1275. She spent \$40 of her earnings per week during the school year. Which of the following equations represents the amount of money,  $m$ , that was remaining from Elaine's summer job earnings after  $w$  weeks of school?

- A.  $m = -1275 + 40w$   
B.  $m = -40 + 1275w$   
C.  $m = 40 - 1275w$   
D.  $m = 1275 - 40w$

- 38 Greta is making soup and needs to buy broth. She is able to buy cans of broth in the four different sizes listed below.

- Can A costs \$3.84 for 32 ounces.
- Can B costs \$1.40 for 14 ounces.
- Can C costs \$3.96 for 49.5 ounces.
- Can D costs \$1.60 for 14.5 ounces.

Which can costs the **least** per ounce?

- A. Can A  
B. Can B  
C. Can C  
D. Can D

- 39 Jacob made the stem-and-leaf plot below to show the number of minutes per day he spent playing video games over a 10-day period.

**Minutes Spent  
Playing Video Games**

6	5
7	5 6 7
8	1 3 3 5
9	1 4

<b>Key</b>
7 5 represents 75

What is the mean of the set of data in the stem-and-leaf plot?

- A. 81
- B. 82
- C. 83
- D. 85

- 40 The annual salaries, in millions of dollars, of 10 professional baseball players are shown below.

2.4	0.9	10.1	5.5	13.0	15.6	12.0	10.5	0.7	11.5
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What is the range of the 10 annual salaries, in millions of dollars?

- A. 8.2
- B. 9.1
- C. 10.3
- D. 14.9

Questions 41 and 42 are open-response questions.

- **BE SURE TO ANSWER AND LABEL ALL PARTS OF EACH 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 41 in the space provided in your Student Answer Booklet.

**41** Steve completed his research for a term paper and started writing a first draft. He asked Luisa to proofread the first draft.

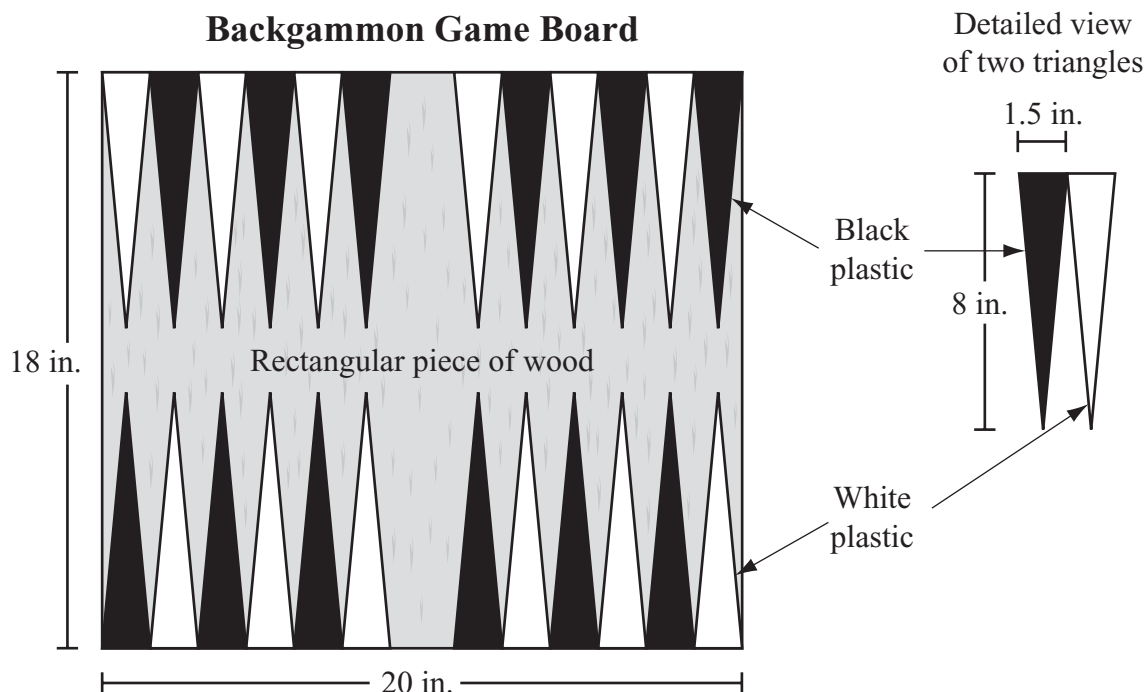
- a. Steve wrote 720 words of his first draft in 3 hours. What was the rate, in words per hour, at which Steve wrote? Show or explain how you got your answer.
- b. Luisa can proofread 1200 words per hour. At this rate, what was the time, in hours, it took her to proofread 720 words? Show your work.

Steve's completed term paper has 6000 words on 20 pages. Each page contains an equal number of words.

- c. Using your answer from part (a), what was the time, in hours, it took Steve to write 1 page? Show your work.
- d. Luisa proofread all 20 pages of Steve's completed term paper at a rate of 1200 words per hour. What is this rate in **pages** per hour? Show your work.

Write your answer to question 42 in the space provided in your Student Answer Booklet.

- 42 Ethan wants to build a backgammon game board. A diagram of the game board, its dimensions, and a detailed view of two triangles are shown below.

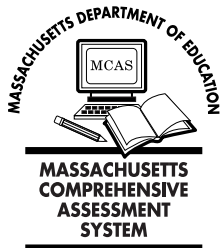


To make the board, Ethan will begin with a rectangular piece of wood that has a length of 20 inches and a width of 18 inches. He will then glue congruent triangles of black plastic and white plastic onto the rectangular piece of wood. The table below shows the price per square inch of each material Ethan will use.

**Prices of Backgammon Game Board Materials**

Material	Wood	Black plastic	White plastic
Price (per square inch)	\$0.20	\$0.50	\$0.50

- What is the area, in square inches, of 1 black triangle? Show your work.
- Using your answer from part (a), what is the cost of the amount of black plastic needed to make 1 black triangle? Show your work.
- What is the cost of the amount of white plastic needed to make **all** of the white triangles? Show your work.
- What will be the total cost of the materials Ethan uses to build the game board, not including the glue? Show your work.



## Massachusetts Comprehensive Assessment System Grade 10 Mathematics Reference Sheet

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### AREA FORMULAS

- square .....  $A = s^2$
- rectangle .....  $A = bh$
- parallelogram .....  $A = bh$
- triangle .....  $A = \frac{1}{2}bh$
- trapezoid .....  $A = \frac{1}{2}h(b_1 + b_2)$
- circle .....  $A = \pi r^2$

### LATERAL SURFACE AREA FORMULAS

- right rectangular prism .....  $LA = 2(hw) + 2(lh)$
- right circular cylinder .....  $LA = 2\pi rh$
- right circular cone .....  $LA = \pi r\ell$   
( $\ell$  = slant height)
- right square pyramid .....  $LA = 2s\ell$   
( $\ell$  = slant height)

### TOTAL SURFACE AREA FORMULAS

- cube .....  $SA = 6s^2$
- right rectangular prism .....  $SA = 2(lw) + 2(hw) + 2(lh)$
- sphere .....  $SA = 4\pi r^2$
- right circular cylinder .....  $SA = 2\pi r^2 + 2\pi rh$
- right circular cone .....  $SA = \pi r^2 + \pi r\ell$   
( $\ell$  = slant height)
- right square pyramid .....  $SA = s^2 + 2s\ell$   
( $\ell$  = slant height)

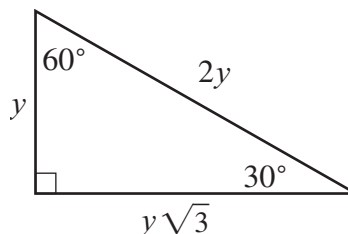
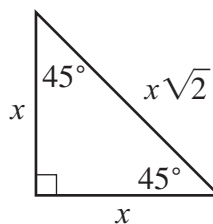
### VOLUME FORMULAS

- cube .....  $V = s^3$   
( $s$  = length of an edge)
- right rectangular prism .....  $V = lwh$   
OR  
 $V = Bh$   
( $B$  = area of a base)
- sphere .....  $V = \frac{4}{3}\pi r^3$
- right circular cylinder .....  $V = \pi r^2 h$
- right circular cone .....  $V = \frac{1}{3}\pi r^2 h$
- right square pyramid .....  $V = \frac{1}{3}s^2 h$

### CIRCLE FORMULAS

- $C = 2\pi r$
- $A = \pi r^2$

### SPECIAL RIGHT TRIANGLES



**Mathematics Retest**  
**November 2007 Released Items:**  
**Reporting Categories, Standards, and Correct Answers\***

Item No.	Page No.	Reporting Category	Standard	Correct Answer (MC/SA)*
1	41	<i>Number Sense and Operations</i>	10.N.2	C
2	41	<i>Number Sense and Operations</i>	10.N.4	B
3	42	<i>Patterns, Relations, and Algebra</i>	10.P.4	A
4	42	<i>Patterns, Relations, and Algebra</i>	10.P.7	A
5	42	<i>Number Sense and Operations</i>	10.N.3	B
6	42	<i>Patterns, Relations, and Algebra</i>	10.P.8	C
7	43	<i>Data Analysis, Statistics, and Probability</i>	10.D.1	D
8	43	<i>Data Analysis, Statistics, and Probability</i>	10.D.2	B
9	43	<i>Patterns, Relations, and Algebra</i>	10.P.4	A
10	43	<i>Number Sense and Operations</i>	10.N.2	C
11	44	<i>Number Sense and Operations</i>	10.N.1	D
12	44	<i>Patterns, Relations, and Algebra</i>	10.P.1	D
13	44	<i>Patterns, Relations, and Algebra</i>	10.P.2	A
14	44	<i>Number Sense and Operations</i>	10.N.3	B
15	45	<i>Measurement</i>	10.M.2	5 inches
16	45	<i>Geometry</i>	10.G.5	100 feet
17	46	<i>Patterns, Relations, and Algebra</i>	10.P.2	
18	47	<i>Patterns, Relations, and Algebra</i>	10.P.6	11
19	47	<i>Measurement</i>	10.M.1	104 square feet
20	48	<i>Patterns, Relations, and Algebra</i>	10.P.1	
21	49	<i>Geometry</i>	10.G.7	
22	50	<i>Data Analysis, Statistics, and Probability</i>	10.D.1	B
23	50	<i>Data Analysis, Statistics, and Probability</i>	8.D.4	A
24	51	<i>Measurement</i>	10.M.2	C
25	51	<i>Number Sense and Operations</i>	10.N.1	A
26	51	<i>Geometry</i>	10.G.9	C
27	52	<i>Geometry</i>	10.G.1	C
28	52	<i>Geometry</i>	10.G.11	B
29	53	<i>Patterns, Relations, and Algebra</i>	10.P.3	C
30	53	<i>Measurement</i>	10.M.1	C
31	54	<i>Data Analysis, Statistics, and Probability</i>	10.D.1	
32	55	<i>Geometry</i>	10.G.3	B
33	55	<i>Measurement</i>	10.M.2	B
34	56	<i>Data Analysis, Statistics, and Probability</i>	10.D.1	A
35	57	<i>Patterns, Relations, and Algebra</i>	10.P.6	B
36	57	<i>Geometry</i>	10.G.5	A
37	57	<i>Patterns, Relations, and Algebra</i>	10.P.7	D
38	57	<i>Number Sense and Operations</i>	8.N.3	C
39	58	<i>Data Analysis, Statistics, and Probability</i>	10.D.1	A
40	58	<i>Data Analysis, Statistics, and Probability</i>	10.D.1	D
41	59	<i>Number Sense and Operations</i>	8.N.3	
42	60	<i>Measurement</i>	10.M.1	

\* Answers are provided here for multiple-choice items and short-answer items only. Each open-response item has its own set of scoring guidelines, which allow for valid alternate interpretations and responses.