Maryland MCAP Grade 7 Math Practice

Exam Materials
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Answer Key Materials
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Student Name _____

P

MCAP Maryland Comprehensive Assessment Program

Grade 7
Mathematics
Test Booklet

Practice Test

TEST BOOKLET SECURITY BARCODE

Section 1
(Non-Calculator)

Directions:

Today, you will take Section 1 of the Grade 7 Mathematics Practice Test. You will not be able to use a calculator.

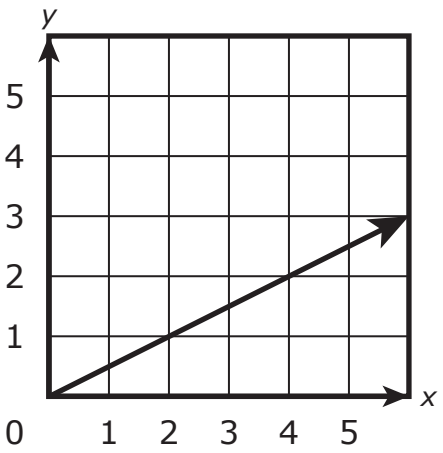
Read each question. Then, follow the directions to answer each question. Mark your answers by completely filling in the circles in your answer document. Do not make any pencil marks outside of the circles. If you need to change an answer, be sure to erase your first answer completely. If a question asks you to show or explain your work, you must do so to receive full credit. Only responses entered within the space provided will be scored.

If you do not know the answer to a question, you may go on to the next question. If you finish early, you may review your answers and any questions you did not answer in this section ONLY. Do not go past the stop sign.

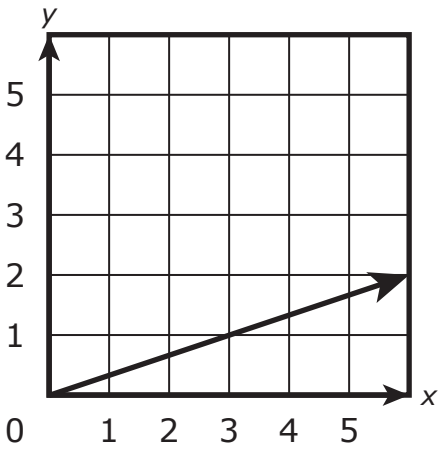
GO ON ▶

1 Which graph represents a proportional relationship from y to x with a constant of proportionality of $\frac{1}{2}$?

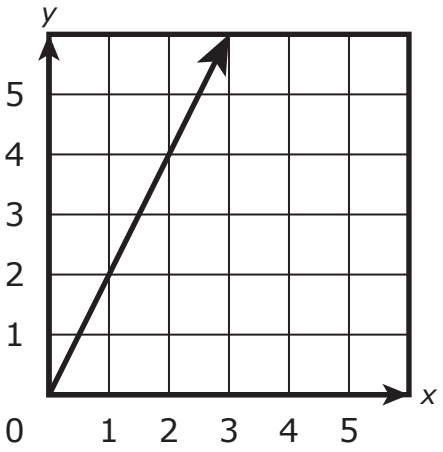
A



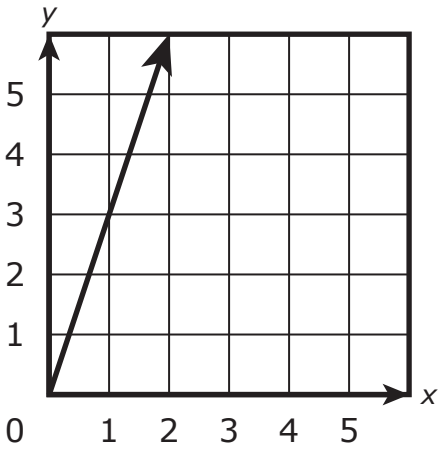
C



B



D



2 The freezing temperatures, in degrees Celsius, of two substances are shown in the table.

Substance	Freezing Temperature (°C)
Chloroform	−63.5
Ethanol	−114.7

The freezing temperature of chloroform is how many degrees Celsius greater than the freezing temperature of ethanol?

Enter your answer in the space provided.

3 Miguel eats a meal at a restaurant and leaves a 15% tip for the server. The cost of the meal without the tip is p dollars.

Which expressions represent the total cost, in dollars, of the meal and the tip?

Select **all** that apply.

A $1.15p$

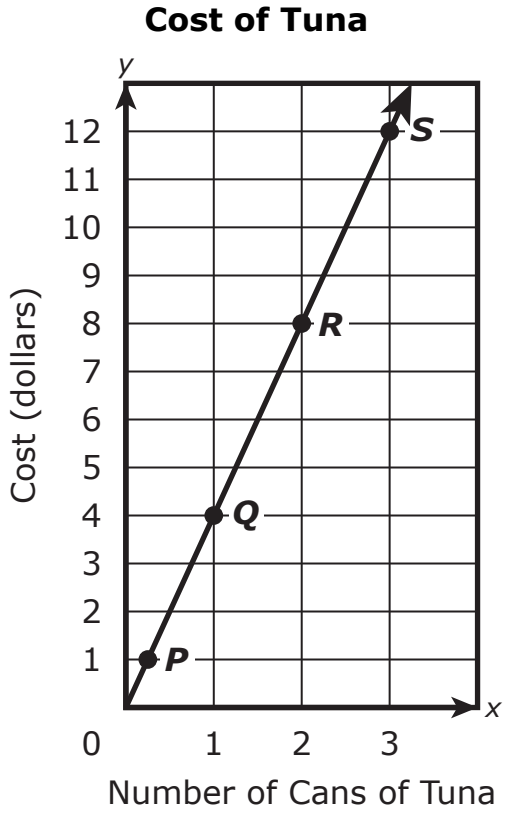
B $\frac{15}{100}p$

C $p + 15$

D $p + 0.15p$

E $p + 1.15p$

4 The graph shows the relationship between the number of cans of tuna bought and the total cost of the cans of tuna.



For which point on the graph does the y-coordinate represent the unit rate for the cost of the cans of tuna?

A point P

B point Q

C point R

D point S

5 A certain three-dimensional figure has one base and 3 faces.

- The area of each face is the same.
- The area of the base is 5 square centimeters.
- The total surface area of the figure, including the base, is 26 square centimeters.

What is the area of one face of the three-dimensional figure?

Enter your answer in the space provided.

6 Use the given information to answer the question.

The graph of a proportional relationship passes through the point with coordinates (10, 5) on the *xy*-coordinate plane.

Which equation represents the given relationship?

Select one answer.

A $y = 0.5x$

B $y = 2x$

C $y = 0.5x + 5$

D $y = 2x + 5$

7 What is the value of the following expression?

$$\left(-\frac{1}{2}\right) \div \left(\frac{3}{5}\right)$$

Select one answer.

A $\frac{1}{30}$

B $-\frac{1}{30}$

C $\frac{5}{6}$

D $-\frac{5}{6}$

8 Consider the following expression.

$$-2(w - 3) + 5(6w + 4)$$

Which expression is equivalent to the expression shown?

Select one answer.

A $-28w + 1$

B $28w + 14$

C $28w + 26$

D $32w + 14$

9 The following table shows the low temperatures and the high temperatures, in degrees Fahrenheit, in four different cities on the same day.

Temperatures in Four Cities

City	Low	High
Biddle	−17.0	8.1
Helena	−16.8	3.2
Lima	3.9	33.1
Malta	−29.0	−6.0

Which two statements about the difference in low temperature and high temperature are true?

Select **all** that apply.

A The city with the greatest difference in low temperature and high temperatures was Malta.

B The city with the greatest difference in low temperature and high temperatures was Lima.

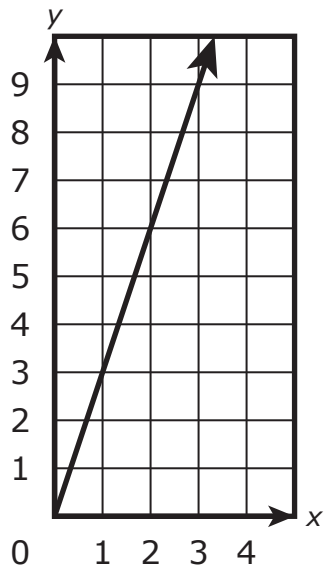
C The city with the greatest difference in low temperature and high temperatures was Helena.

D The city with the least difference in low temperature and high temperatures was Lima.

E The city with the least difference in low temperature and high temperatures was Biddle.

F The city with the least difference in low temperature and high temperatures was Helena.

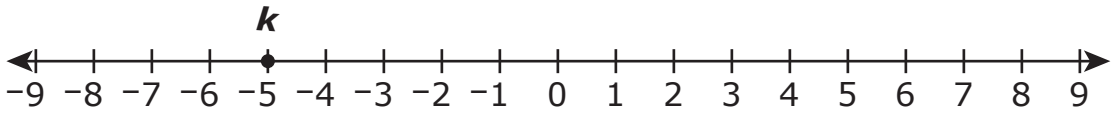
10 The graph shows a proportional relationship from y to x that passes through the points located at $(2, 6)$ and $(3, 9)$.



What is the constant of proportionality?

Enter your answer in the space provided.

11 Point k is plotted on the number line.



A point will be plotted on the number line to represent the value of the expression $k + 4$.

What is the value of the expression?

Enter your answer in the space provided.

12 A volunteer is planning to hold tutoring sessions next year to tutor students in math and science.

- The volunteer will provide 4 tutoring sessions each month.
- The number of hours the volunteer will tutor in each session is the same.
- The volunteer will spend 1 hour of each session tutoring science.
- The volunteer wants to spend at least 120 hours tutoring next year.

The inequality $48(x + 1) \geq 120$ can be used to represent this situation.

What is the meaning of the possible solutions for x in the inequality?

A the number of hours spent tutoring math per month

B the number of hours spent tutoring math per session

C the number of hours spent tutoring science per month

D the number of hours spent tutoring science per session

STOP

Section 2
(Calculator)

Directions:

Today, you will take Section 2 of the Grade 7 Mathematics Practice Test. You will be able to use a calculator.

Read each question. Then, follow the directions to answer each question. Mark your answers by completely filling in the circles in your answer document. Do not make any pencil marks outside of the circles. If you need to change an answer, be sure to erase your first answer completely. If a question asks you to show or explain your work, you must do so to receive full credit. Only responses entered within the space provided will be scored.

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GO ON ▶

1 At the end of the year 2010, a business had 140 stores in the United States.

By the end of the year 2016, the number of stores in the United States had increased by 60%, and $\frac{1}{14}$ of these stores were located in California.

How many stores were located in California at the end of the year 2016?

Select one answer.

A 6

B 10

C 14

D 16

2 A copy machine prints 10 copies per $\frac{1}{4}$ minute.

At what rate, in copies per minute, does the copy machine print?

Enter your answer in the space provided.

3 A student correctly used division to find the decimal equivalent of $\frac{1}{12}$ using the work shown.

$$
\begin{array}{r}
0.0833 \\
12\overline{)1.0000} \\
\underline{0.96} \\
0.040 \\
\underline{0.036} \\
0.0040 \\
\underline{0.0036} \\
0.0004
\end{array}
$$

The student claims that the decimal equivalent of $\frac{1}{12}$ is $0.\overline{083}$.

Which statement explains why the student's claim is incorrect?

A The student's work shows that one digit will repeat, which means that the decimal equivalent of $\frac{1}{12}$ is $0.08\overline{3}$.

B The student's work shows that one digit will repeat, which means that the decimal equivalent of $\frac{1}{12}$ is $0.0\overline{83}$.

C The student's work shows that two digits will repeat, which means that the decimal equivalent of $\frac{1}{12}$ is $0.08\overline{3}$.

D The student's work shows that two digits will repeat, which means that the decimal equivalent of $\frac{1}{12}$ is $0.0\overline{83}$.

4 A student will buy packs of AA batteries, packs of AAA batteries, and 1 pack of C batteries.

- The student will buy the same number of packs of AA and AAA batteries.
- Each pack of AA batteries costs $10.
- Each pack of AAA batteries costs $5.
- The pack of C batteries costs $18.
- The student will spend a total of $108.

Which equations can be used to determine x, the number of packs of each of AA batteries and AAA batteries the student will buy?

Select **all** that apply.

A $15x = 90$

B $23x = 98$

C $33x = 108$

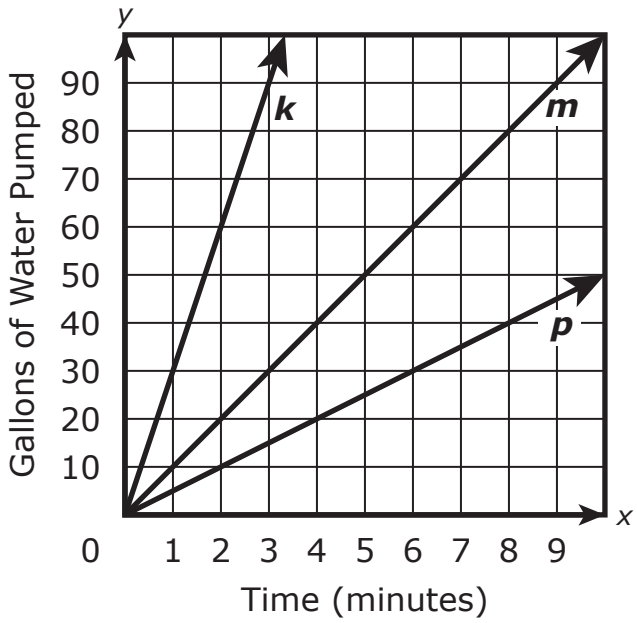
D $10 + (5 + 18)x = 108$

E $(10 + 5)x + 18 = 108$

F $(10 + 5 + 18)x = 108$

5 A hotel wants to buy a pump to fill a hot tub with water. The lines graphed on the coordinate grid represent the rates at which three pumps can fill the hot tub with water.

Filling the Hot Tub



The hotel determined that the slowest of the three pumps can fill the hot tub with water in 90 minutes. Using this information, explain how to determine the number of minutes it will take for the fastest of the three pumps to fill the hot tub with water.

Enter your answer and your justification in the space provided.

6 The floor of a room is going to be covered with ceramic tiles.

- The length of the room is 12 feet.
- The width of the room is $\frac{2}{3}$ of the length of the room.
- The ceramic tiles are squares with $1\frac{1}{2}$ inches per side.

Which expression represents the number of ceramic tiles that will be needed?

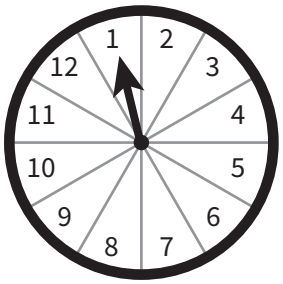
A $(12 \times 12)\left(12 \times \frac{2}{3} \times 12\right) \div \left(\frac{3}{2} \times \frac{3}{2}\right)$

B $(12 \times 12)\left(12 \times \frac{2}{3} \times 12\right) \times \left(\frac{3}{2} \times \frac{3}{2}\right)$

C $12\left(12 \times \frac{2}{3}\right) \div \left(\frac{3}{2} \times \frac{3}{2}\right)$

D $12\left(12 \times \frac{2}{3}\right) \times \left(\frac{3}{2} \times \frac{3}{2}\right)$

7 A spinner has 12 sections of equal size. The sections are numbered from 1 to 12, as shown in the following figure.



The arrow on the spinner will be spun once. Consider the following events.

- J is the event that the arrow stops in a section with an even number.
- K is the event that the arrow stops in a section with a number greater than 2.
- L is the event that the arrow stops in a section with the number 10.

Which of the following lists shows the three events ordered from least to greatest probability of occurrence?

Select one answer.

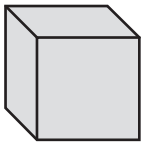
A J, K, L

B J, L, K

C L, K, J

D L, J, K

8 The cube shown in the following figure will be sliced by a plane. The plane will intersect exactly four faces of the cube and will not contain any point where three faces meet.



Which polygons could represent the shape of the region where the plane intersects the cube?

Select **all** that apply.

A A square

B A hexagon

C A rectangle that is not a square

D A triangle with 3 equal side lengths

E A triangle with 3 different side lengths

STOP

Section 3
(Calculator)

Directions:

Today, you will take Section 3 of the Grade 7 Mathematics Practice Test. You will be able to use a calculator.

Read each question. Then, follow the directions to answer each question. Mark your answers by completely filling in the circles in your answer document. Do not make any pencil marks outside of the circles. If you need to change an answer, be sure to erase your first answer completely. If a question asks you to show or explain your work, you must do so to receive full credit. Only responses entered within the space provided will be scored.

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1 A linear relationship is represented in each table, where x is the independent variable and y is the dependent variable. Which tables show a proportional relationship?

Select **all** that apply.

A

x	*y*
0	0
1	2
2	4

B

x	*y*
0	5
1	6
2	7

C

x	*y*
6	4
9	6
12	8

D

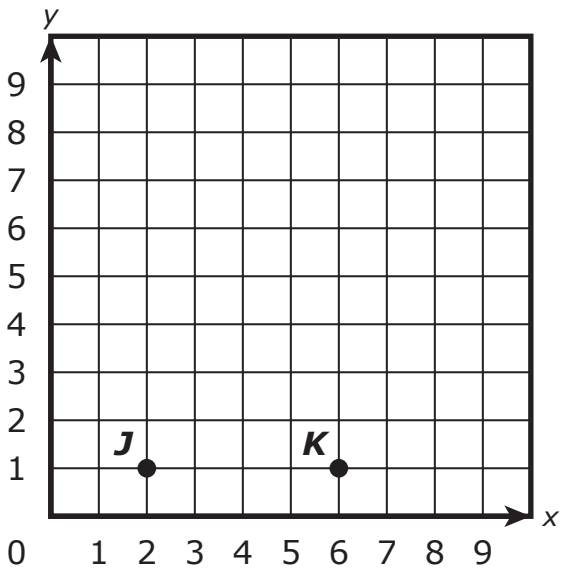
x	*y*
6	8
9	12
12	16

E

x	*y*
6	3
9	6
12	9

GO ON ▶

2 In the coordinate plane shown, point *J* and point *K* are two of the vertices of right triangle *JKL*.



Line segment *KL* has a length of 3 units and is perpendicular to line segment *JK*.

Which ordered pair represents the location of point *L* on the coordinate plane?

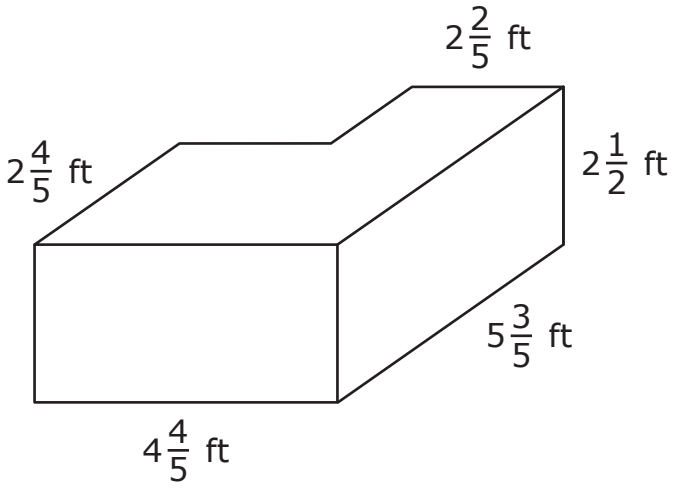
A (2, 4)

B (4, 2)

C (4, 6)

D (6, 4)

3 A farmer's horses drink from a rectangular water tank with dimensions shown.



When the farmer refills the tank, it takes the horses 4 days to drink all the water. The farmer wants to build a new, larger tank and plans to increase each measurement of the tank by 25%.

- By what percentage will the amount of water the farmer can put in the tank increase when the larger tank is built?
- How many days will it take the horses to drink all the water in the larger tank?

Explain how you found your answers.

Enter your answers and your explanation in the space provided.

4 The regular price of $28 for dog food is discounted by 25%. The sales tax is 8% of the discounted price. The steps used to determine the price of the dog food after the discount is applied including sales tax are shown.

- Step 1: $28\left(\frac{3}{4}\right)(1 + 0.08)$
- Step 2: $21(1.08)$
- Step 3: 22.68

Which statement is true about the work?

A An error occurred in Step 1 because $\frac{3}{4}$ should have been 0.25.

B An error occurred in Step 1 because $(1 + 0.08)$ should have been 0.92.

C An error occurred in Step 2 because the product of 28 and $\frac{3}{4}$ is $28\frac{3}{4}$.

D The work is correct and the discounted price of the dog food with sales tax is $22.68.

5 Two expressions are given.

- $3.5n + 4\left(5\frac{1}{4}n - 1.5\right)$
- $-21\left(\frac{2}{7} - \frac{7}{6}n\right)$

Apply the properties of operations to show why $3.5n + 4\left(5\frac{1}{4}n - 1.5\right)$ is equivalent to $-21\left(\frac{2}{7} - \frac{7}{6}n\right)$.

Show your work or explain your reasoning.

Enter your work or explanation in the space provided.

6 Each day, a salesperson earns $25 plus 5% of their total sales for the day. The salesperson's goal is to earn more than $50 on Thursday.

Which statements are true?

Select **all** that apply.

A The salesperson would reach the goal if their total sales on Thursday are $60.

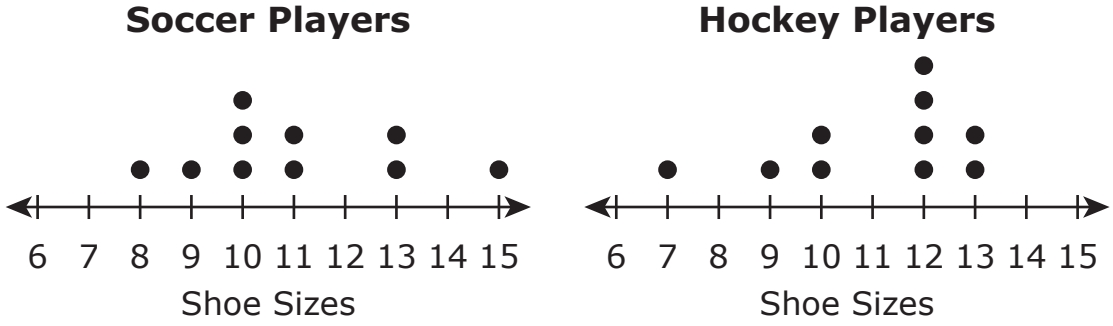
B The salesperson would reach the goal if their total sales on Thursday are $700.

C The salesperson would reach the goal if their total sales on Thursday are exactly $500.

D The salesperson can use the inequality $25 + 5x > 50$ to determine x, the total dollar amount of sales needed to exceed the goal.

E The salesperson can use the inequality $25 + 0.05x > 50$ to determine x, the total dollar amount of sales needed to exceed the goal.

7 A sports organization collected data about the shoe sizes of soccer players and hockey players. The dot plots show the data that was collected.



How do the medians of the data sets compare in terms of the mean absolute deviations of the data sets?

A The median shoe size for the hockey players is 1.5 greater than the median shoe size for the soccer players, and the difference is 1.25 times the mean absolute deviation of either data set.

B The median shoe size for the hockey players is 2 greater than the median shoe size for the soccer players, and the difference is 1.25 times the mean absolute deviation of either data set.

C The median shoe size for the hockey players is 1.5 greater than the median shoe size for the soccer players, and the difference is 0.9375 times the mean absolute deviation of either data set.

D The median shoe size for the hockey players is 2 greater than the median shoe size for the soccer players, and the difference is 0.9375 times the mean absolute deviation of either data set.

STOP

Section 4
(Calculator)

Directions:

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Read each question. Then, follow the directions to answer each question. Mark your answers by completely filling in the circles in your answer document. Do not make any pencil marks outside of the circles. If you need to change an answer, be sure to erase your first answer completely. If a question asks you to show or explain your work, you must do so to receive full credit. Only responses entered within the space provided will be scored.

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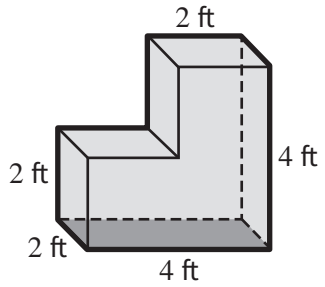
GO ON ▶

1 The following figure shows a solid. At each vertex, three line segments intersect at right angles.



What is the surface area, in square feet, of the solid?

Select one answer.

A 28

B 36

C 56

D 72

2 Jackson is using bricks to make a patio. He completed $\frac{1}{8}$ of the patio in $\frac{2}{5}$ hour. If Jackson continues to work at this constant rate, what fraction of the patio will he complete each hour?

Select one answer.

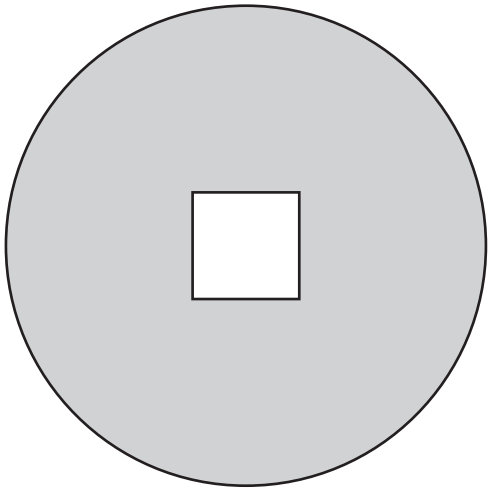
A $\frac{2}{8}$

B $\frac{5}{16}$

C $\frac{16}{5}$

D $\frac{1}{20}$

3 A gardener will plant grass in a circular, flat garden. The part of the garden where the gardener will plant the grass is represented by the shaded area in the figure shown.



- The garden has a diameter of 18 feet.
- There is a square concrete slab in the center of the garden. Each side of the square measures 4 feet.
- The cost of the grass is $0.90 per square foot.

Determine the total cost, in dollars, of the grass that the gardener needs.

Enter your answer in the space provided.

4 A flat, rectangular garden has a perimeter of 24 meters, and the ratio of the length of the garden to the width is 2 to 1. The steps to determine the length, in meters, of the garden are shown.

At least one mistake was made.

- Step 1: $2l + 2w = 24$
- Step 2: $2l + 2(2l) = 24$
- Step 3: $2l + 4l = 24$
- Step 4: $6l = 24$
- Step 5: $l = 4$

In which step was the first mistake made, **and** what is the correct length of the garden?

A The first mistake was made in Step 2 and the correct length is 6 meters.

B The first mistake was made in Step 2 and the correct length is 8 meters.

C The first mistake was made in Step 3 and the correct length is 6 meters.

D The first mistake was made in Step 3 and the correct length is 8 meters.

5 A game has two players. On each turn, a player spins two spinners to determine how far to move a game piece.

- Each spinner is divided into 4 equal sections.
- A different integer from 1 to 4 is written on each section of one spinner.
- A different integer from -1 to 2 is written on each section of the other spinner.
- The player finds the sum of the integers shown and moves the game piece that number of spaces.
- The first player to land on or pass the "Win" space wins the game.

The figure shows the position of each player's game pieces. Player A needs to move 6 spaces or more to win and Player B needs to move 3 spaces or more to win.

A			B			Win

- If Player A has the next turn, what is the probability that Player A wins the game? Show or explain how you determined your answer.
- If Player B has the next turn, what is the probability that Player B wins the game? Show or explain how you determined your answer.

Enter your answer and your explanation in the space provided.

6 Two students both solved the equation $-4(x - 0.5) = 6$ incorrectly. The work of each student is shown.

Student A's Work:

$-4(x - 0.5) = 6$
Step 1: $-4x - 2 = 6$
Step 2: $-4x = 8$
Step 3: $x = -2$

Student B's Work:

$-4(x - 0.5) = 6$
Step 1: $-4x + 2 = 6$
Step 2: $-4x = 8$
Step 3: $x = -2$

In which step of their work did Student A and Student B make their first mistake?

A Student A made their first mistake in Step 1 and Student B made their first mistake in Step 1.

B Student A made their first mistake in Step 1 and Student B made their first mistake in Step 2.

C Student A made their first mistake in Step 2 and Student B made their first mistake in Step 1.

D Student A made their first mistake in Step 2 and Student B made their first mistake in Step 2.

GO ON ▶

7 A company produces 25,000 cans of soup per day that should each contain 8 ounces of soup. A quality control employee selects a random sample of 50 cans of soup each day and determines if those cans contain 8 ounces of soup. On a certain day, 2 cans in the sample contained less than 8 ounces of soup.

Based on this sample, which value is the best estimate for the number of cans of soup produced on this day that will contain less than 8 ounces of soup?

A 100

B 250

C 500

D 1000

8 A person waxed $\frac{1}{40}$ of a floor every $\frac{1}{2}$ hour. The area of the floor was 2,000 square feet.

At what unit rate, in square feet per hour, did the person wax the floor?

Enter your answer in the space provided.

STOP

MCAP Maryland Comprehensive Assessment Program

Practice Test Answer and Alignment Document
Mathematics: Grade 7
Pencil-and-Paper

The following pages include the answer keys for all machine-scored items. A sample student response for the top score is included for all hand-scored constructed response items.

- Some answer keys include one possible sample student response. Other valid methods for solving the problem can earn full credit unless a specific method is required by the item.
- In items where the scores are awarded for full and partial credit, the definition of partial credit will be confirmed during range-finding (reviewing sets of real student work).
- If students make a computation error, they can still earn points for reasoning or modeling.

Section 1

Item Number	Answer Key	Evidence Statement Key/ Content Scope
1.	A	7.RP.A.2b
2.	51.2	7.NS.A.3
3.	A, D	7.EE.A.2
4.	B	7.RP.A.2d
5.	7	7.EE.B.4a-1
6.	A	7.RP.A.2c
7.	D	7.NS.A.2c
8.	C	7.EE.A.1
9.	B, F	7.NS.A.1c-2
10.	3	7.RP.A.2b
11.	–1	7.NS.A.1b-1
12.	B	7.EE.B.4b

Section 2

Item Number	Answer Key	Evidence Statement Key/ Content Scope
1.	D	7.EE.B.3
2.	40	7.RP.A.1
3.	A	7.R.2d 7.NS.A.2d
4.	A, E	7.M.1 7.EE.B.4a-1 7.EE.B.4a-2 7.M.1b
5.	**Sample Top Score Response** Pump *p* is the slowest. It pumps 40 gallons in 8 minutes, so the unit rate is 5 gallons per minute. Pump *m* is neither the fastest nor the slowest. It pumps 90 gallons in 9 minutes, so the unit rate is 10 gallons per minute. Pump *k* is the fastest. It pumps 90 gallons in 3 minutes, so the unit rate is 30 gallons per minute. Pump *k* is 6 times as fast as pump *p*, so it will take $\frac{1}{6}$ of 90 minutes, which is 15 minutes to fill the hot tub with water. **Refer to the Holistic Rubric for 4-Point Reasoning Constructed Response Items for score point information.**	7.R.1a 7.RP.A.1 7.RP.A.2b
6.	A	7.M.1 7.G.B.6 7.M.1b
7.	D	7.SP.C.5
8.	A, C	7.G.A.3

Section 3

Item Number	Answer Key	Evidence Statement Key/ Content Scope
1.	A, C, D	7.RP.A.2a
2.	D	7.G.A.2
3.	**Note:** *This sample top score response continues on the next page*. **Sample Top Score Response** The current tank is represented by the L-shaped figure, formed by two connected rectangular prisms. The amount of water, in cubic feet, the current tank can hold is the combined volume of both prisms. The volume of the large rectangular prism is $\left(2\frac{4}{5}\right)\left(4\frac{4}{5}\right)\left(2\frac{1}{2}\right)=\left(\frac{14}{5}\right)\left(\frac{24}{5}\right)\left(\frac{5}{2}\right)=$ $\left(\frac{14}{5}\right)\left(\frac{12}{1}\right)\left(\frac{1}{1}\right)=\frac{168}{5}=33\frac{3}{5}.$ The volume of the smaller rectangular prism is $\left(2\frac{2}{5}\right)\left(2\frac{1}{2}\right)\left(5\frac{3}{5}-2\frac{4}{5}\right)=\left(\frac{12}{5}\right)\left(\frac{5}{2}\right)\left(4\frac{8}{5}-2\frac{4}{5}\right)=$ $6\left(2\frac{4}{5}\right)=6\left(\frac{14}{5}\right)=\frac{84}{5}=16\frac{4}{5}.$ The current tank can hold $33\frac{3}{5}+16\frac{4}{5}=49\frac{7}{5}=50\frac{2}{5}$ cubic feet of water.	7.M.1 7.RP.A.3-2 7.G.B.6 7.M.1b 7.M.1c

Item Number	Answer Key	Evidence Statement Key/ Content Scope
3. *continued*	For the new tank, each dimension of both rectangular prisms will be increased by 25% which can be represented by multiplying each current dimension by 1.25 or $\frac{5}{4}$ as follows: For the large rectangular prism, $\left(\frac{14}{5}\times\frac{5}{4}\right)\left(\frac{24}{5}\times\frac{5}{4}\right)\left(\frac{5}{2}\times\frac{5}{4}\right)=\left(\frac{7}{2}\right)(6)\left(\frac{25}{8}\right)=$ $21\left(\frac{25}{8}\right)=\frac{525}{8}=65\frac{5}{8}.$ For the small rectangular prism, $\left(\frac{12}{5}\times\frac{5}{4}\right)\left(\frac{5}{2}\times\frac{5}{4}\right)\left(\frac{14}{5}\times\frac{5}{4}\right)=3\left(\frac{25}{8}\right)\left(\frac{7}{2}\right)=32\frac{13}{16}.$ The new tank will be able to hold $65\frac{5}{8}+32\frac{13}{16}=65\frac{10}{16}+32\frac{13}{16}=97\frac{23}{16}=98\frac{7}{16}$ cubic feet of water. The percentage of increase from the amount of water contained in the current tank to the amount that will be contained in the new larger tank is $\left(98\frac{7}{16}-50\frac{2}{5}\right)\div 50\frac{2}{5}.$ Simplifying, $(98.4375-50.4)\div 50.4=48.0376\div 50.4$ $=0.953125,$ so the amount of water will increase by about 95%. The number of days it will take for the horses to drink water from the new tank is 4(1.95) = 7.8 or approximately 8 days. **Refer to the Holistic Rubric for 3-Point Modeling Constructed Response Items for score point information.**	7.M.1 7.RP.A.3-2 7.G.B.6 7.M.1b 7.M.1c
4.	D	7.R.2e 7.NS.A.3

Item Number	Answer Key	Evidence Statement Key/ Content Scope
5.	**Sample Top Score Response** $3.5n + 4\left(5\frac{1}{4}n - 1.5\right) = 3.5n + 4\left(5\frac{1}{4}n\right) + 4(-1.5)$ $= 3.5n + 4\left(\frac{21}{4}n\right) - 6$ $= 3.5n + 4\left(\frac{21}{4}\right)n - 6$ $= 3.5n + 21n - 6$ $= 24.5n - 6$ $-21\left(\frac{2}{7} - \frac{7}{6}n\right) = (-21)\left(\frac{2}{7}\right) - 21\left(-\frac{7}{6}n\right)$ $= (-3)\left(\frac{2}{1}\right) + 21\left(\frac{7}{6}n\right)$ $= -6 + 21\left(\frac{7}{6}\right)n$ $= -6 + 7\left(\frac{7}{2}\right)n$ $= -6 + \frac{49}{2}n = -6 + 24\frac{1}{2}n$ The two expressions are equivalent because $-6 + 24\frac{1}{2}n = 24\frac{1}{2}n - 6 = 24.5n - 6$. **Refer to the Holistic Rubric for 3-Point Reasoning Constructed Response Items for score point information.**	7.R.3a 7.EE.A.1
6.	B, E	7.M.1 7.EE.B.4b 7.M.1b 7.M.1c 7.M.1d
7.	C	7.SP.B.3

Section 4

<table>
<tr><th>Item Number</th><th>Answer Key</th><th>Evidence Statement Key/ Content Scope</th></tr>
<tr><td>1.</td><td>C</td><td>7.G.B.6</td></tr>
<tr><td>2.</td><td>B</td><td>7.RP.A.1</td></tr>
<tr><td>3.</td><td>Answers greater than or equal to 214 and less than or equal to 215 are correct</td><td>7.M.1
7.EE.B.3
7.G.B.4-1
7.M.1c</td></tr>
<tr><td>4.</td><td>B</td><td>7.R.1c
7.RP.A.3-1</td></tr>
<tr><td>5.</td><td><u>Sample Top Score Response</u>
The 16 possible outcomes for this situation are represented in the table.
<table>
<tr><th>First Spinner</th><th>Second Spinner</th><th>Sum</th></tr>
<tr><td>1</td><td>-1</td><td>0</td></tr>
<tr><td>1</td><td>0</td><td>1</td></tr>
<tr><td>1</td><td>1</td><td>2</td></tr>
<tr><td>1</td><td>2</td><td>3</td></tr>
<tr><td>2</td><td>-1</td><td>1</td></tr>
<tr><td>2</td><td>0</td><td>2</td></tr>
<tr><td>2</td><td>1</td><td>3</td></tr>
<tr><td>2</td><td>2</td><td>4</td></tr>
<tr><td>3</td><td>-1</td><td>2</td></tr>
<tr><td>3</td><td>0</td><td>3</td></tr>
<tr><td>3</td><td>1</td><td>4</td></tr>
<tr><td>3</td><td>2</td><td>5</td></tr>
<tr><td>4</td><td>-1</td><td>3</td></tr>
<tr><td>4</td><td>0</td><td>4</td></tr>
<tr><td>4</td><td>1</td><td>5</td></tr>
<tr><td>4</td><td>2</td><td>6</td></tr>
</table>
Player A needs to move at least 6 spaces to win the game. Of the 16 possible outcomes, 1 will result in a win. The probability that Player A will win is $\frac{1}{16}$.
Player B needs to move at least 3 spaces to win the game. Of the 16 possible outcomes, 10 will result in a win. The probability that Player B will win is $\frac{10}{16}$ or $\frac{5}{8}$.
Refer to the Holistic Rubric for 4-Point Modeling Constructed Response Items for score point information.</td><td>7.M.1
7.SP.C.7a
7.M.1c</td></tr>
</table>

Item Number	Answer Key	Evidence Statement Key/ Content Scope
6.	B	7.R.3b 7.EE.B.4a-2
7.	D	7.SP.A.2
8.	100	7.RP.A.3-1