Student Name _____

P

MCAP

Maryland Comprehensive Assessment Program

Grade 6 Mathematics Test Book

Practice Test

Large Print

TEST BOOKLET SECURITY BARCODE

Section 1
(Non-Calculator)

Directions:

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EXAMPLES

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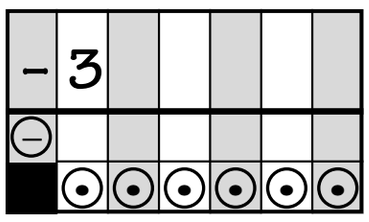

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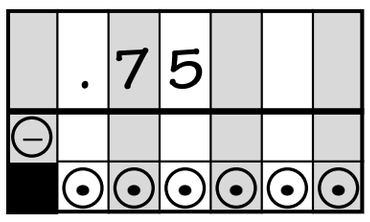


1 An expression is shown.

$$25.761 - 17.49$$

What is the value of the expression?

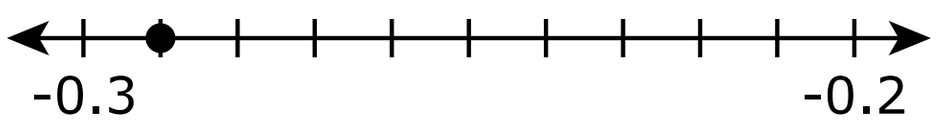
A 8.271

B 8.712

C 24.012

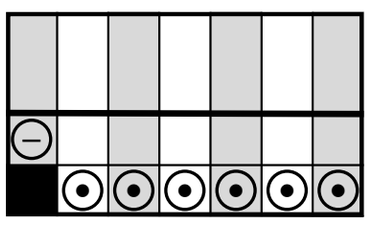
D 24.028

2 The point on the number line shown represents a rational number.



What decimal is represented by the point on the number line?

Enter your answer in the space provided.



3 The list shows information about the 12 movies being shown at a theater.

- 3 are comedy movies.
- 5 are action movies.
- The rest are adventure movies.

What is the ratio of adventure movies to action movies?

A 3:4

B 4:5

C 5:4

D 4:3

4 An expression is shown.

$$43.7 \times 0.25$$

What is the value of the expression?

A 1.0925

B 4.395

C 10.925

D 43.95

5 Which expressions are equivalent to $4x + 16$?

Select **all** that apply.

A $4(x + 4)$

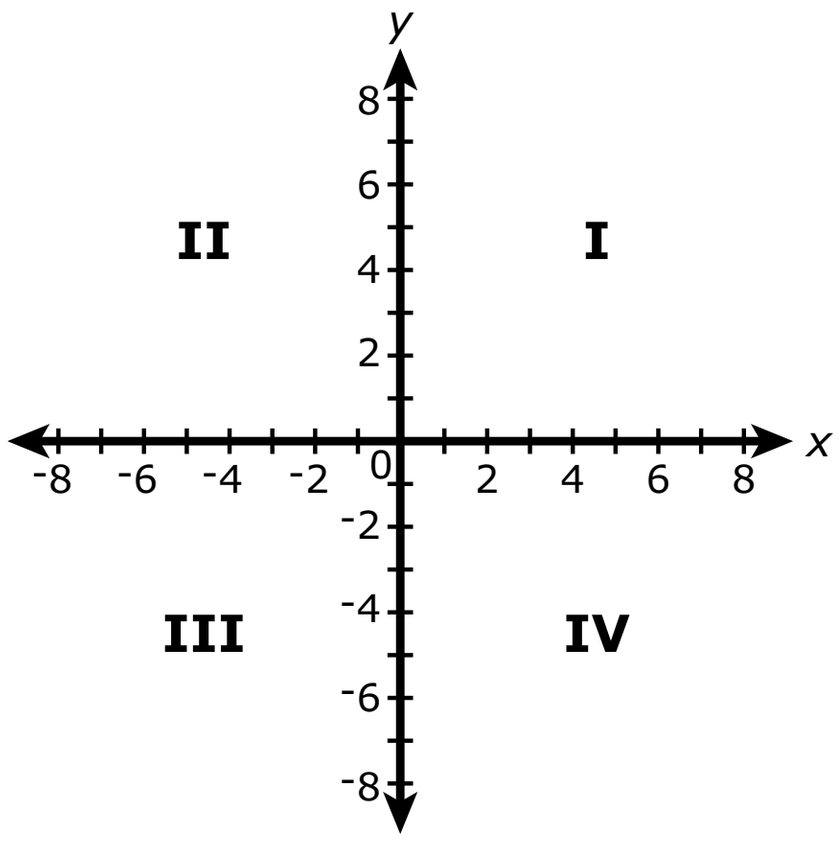
B $4x(1 + 4)$

C $2x(2 + 8)$

D $2x + 2x + 8 + 8$

E $4x + 4x + 4x + 4x$

6 Point *A* is located at (6, 3) in the coordinate plane. Point *B* is located 5 units directly below point *A*.



Which quadrant in the coordinate plane contains point *B*?

A quadrant I

B quadrant II

C quadrant III

D quadrant IV

7 A student has a goal to earn at least $300 each week during the summer. The student will earn $12 per hour working at a store.

Which inequality **best** represents all numbers of hours the student can work each week to reach the goal?

A $x \geq 25$

B $x \leq 25$

C $x > 25$

D $x < 25$

8 An artist is creating several pieces of pottery.

- The artist has $10\frac{4}{5}$ pounds of clay.
- The artist will use $\frac{7}{10}$ of a pound to create each piece of pottery.

What is the **greatest** number of pieces of pottery the artist can create with this clay?

A 3

B 5

C 12

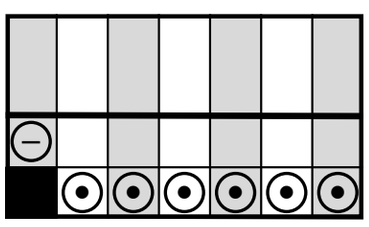
D 15

9 An expression is shown.

$$2 + 4^3$$

What is the value of the expression?

Enter your answer in the space provided.



10 An expression is shown.

$$56 + 91$$

Which expression is equivalent to the given expression **and** is written using the **greatest** common factor of the two numbers in the expression?

A $1(56 + 91)$

B $3(14 + 27)$

C $7(8 + 13)$

D $13(4 + 7)$

11 A person bought a mango and a grapefruit.

The cost of the grapefruit was 15 cents more than twice the cost of the mango.

Let m represent the cost, in cents, of the mango.

Which expression represents the cost, in cents, of the grapefruit?

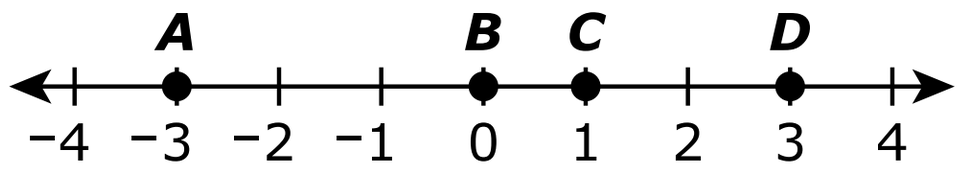
A $2m - 15$

B $2m + 15$

C $\frac{m}{2} - 15$

D $\frac{m}{2} + 15$

12 Points *A*, *B*, *C*, and *D* are plotted on the number line shown.



Which point represents the value of |3|?

A point *A*

B point *B*

C point *C*

D point *D*

13 An expression is shown.

$$63{,}798 \div 49$$

What is the value of the expression?

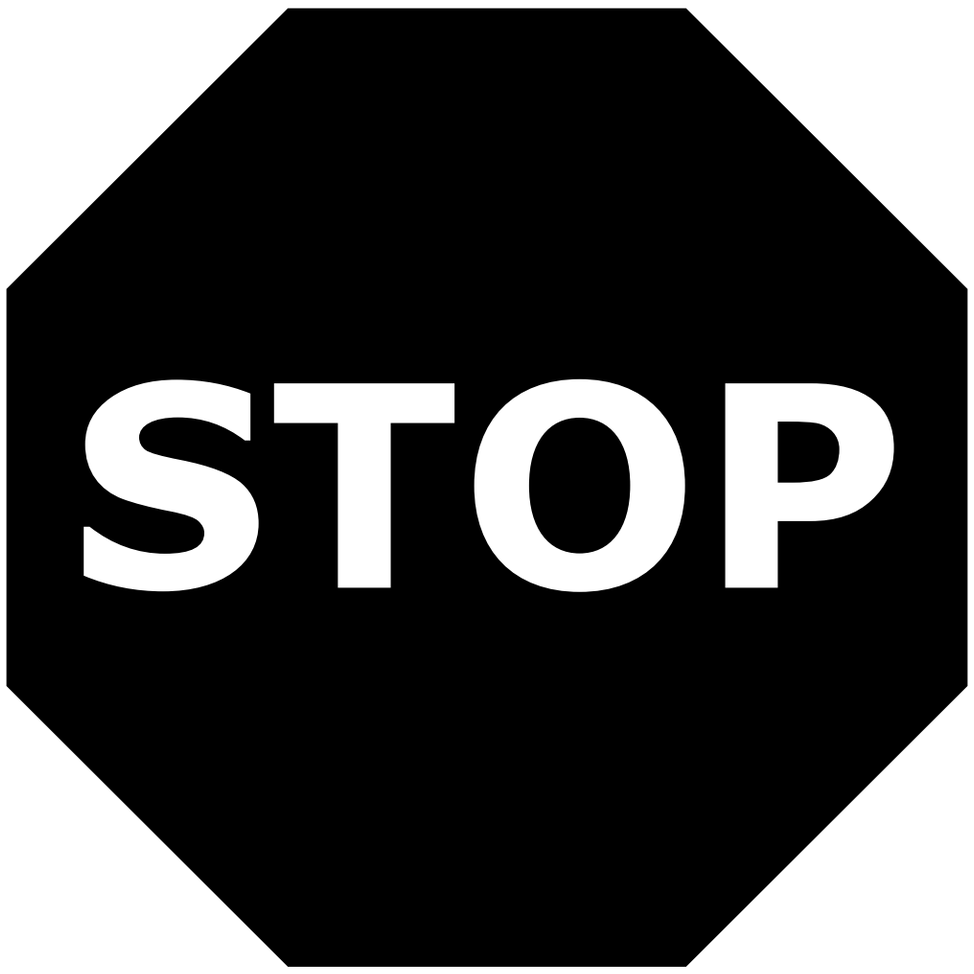
A 1302

B 1320

C 1506

D 1507

STOP



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(Calculator)

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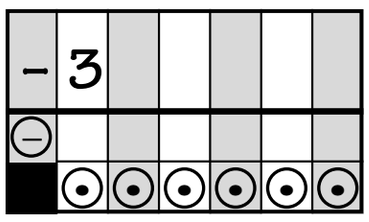

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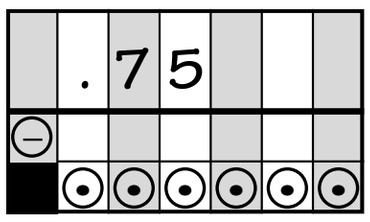
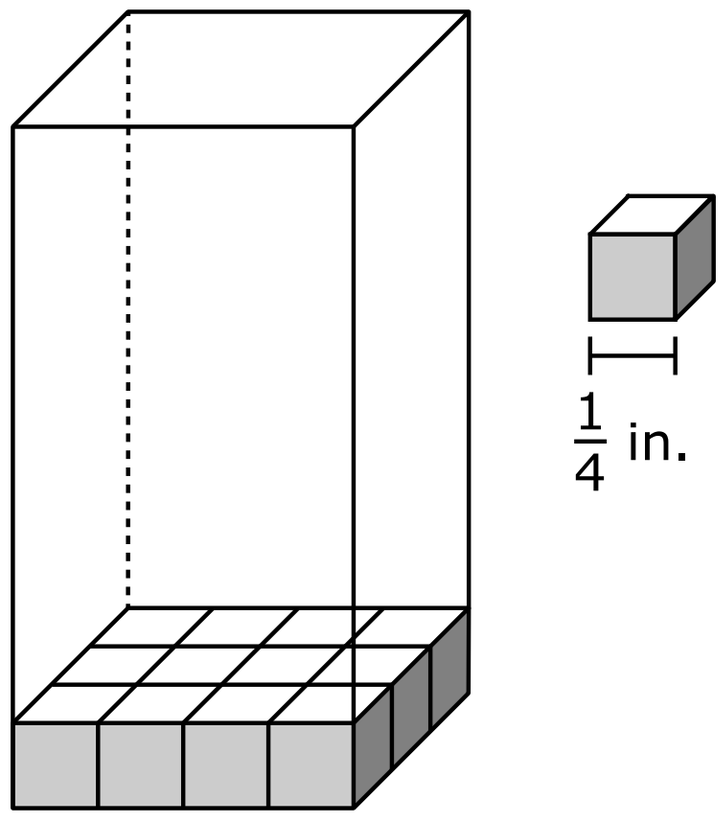


1 The rectangular prism shown will be completely filled using 8 layers of cubes.

The edge of each cube has a length of $\frac{1}{4}$ inch.



What is the total volume, in cubic inches, of the 8 layers of cubes that are needed to completely fill the prism?

A $\frac{1}{8}$

B $1\frac{1}{2}$

C 6

D 24

2 A chef has 8 quarts of cooking oil.

How many **cups** of cooking oil are equivalent to the amount of cooking oil the chef has?

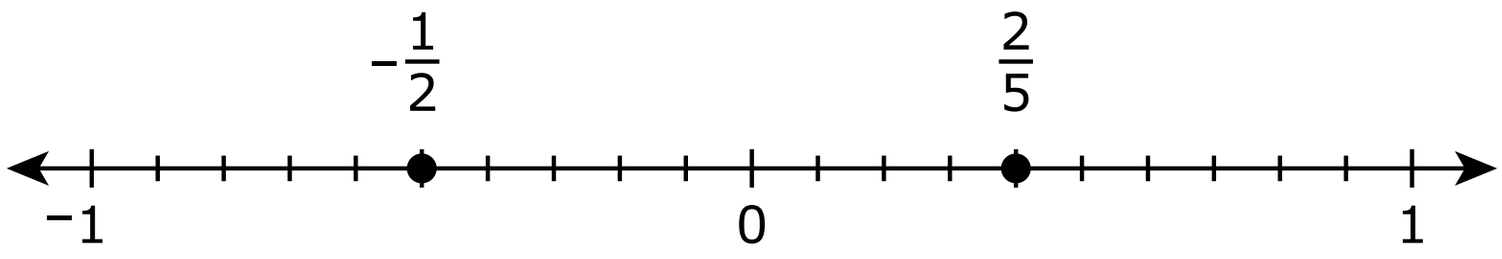
A 2

B 4

C 16

D 32

3 The numbers $-\frac{1}{2}$ and $\frac{2}{5}$ are graphed on the number line.



Which statement correctly compares the absolute values of $-\frac{1}{2}$ and $\frac{2}{5}$ and gives the correct reasoning for the comparison?

A $-\frac{1}{2}$ has the lesser absolute value because $-\frac{1}{2}$ is closer to zero than $\frac{2}{5}$ is to zero.

B $-\frac{1}{2}$ has the greater absolute value because $-\frac{1}{2}$ is closer to zero than $\frac{2}{5}$ is to zero.

C $-\frac{1}{2}$ has the lesser absolute value because $-\frac{1}{2}$ is farther from zero than $\frac{2}{5}$ is from zero.

D $-\frac{1}{2}$ has the greater absolute value because $-\frac{1}{2}$ is farther from zero than $\frac{2}{5}$ is from zero.

4 A worker has 25 feet of ribbon to make bows. Each bow uses 2 feet of ribbon. The worker divides 25 by 2 and gets 12.5 as an answer.

What does the worker's answer mean in this context?

A The worker can make 12 bows and have 1 foot of ribbon left.

B The worker can make 12 bows and have 5 feet of ribbon left.

C The worker can make 5 bows and have 12 feet of ribbon left.

D The worker can make 1 bow and have 12 feet of ribbon left.

5 A machine in a factory makes chairs at a rate of 2 chairs every 10 minutes.

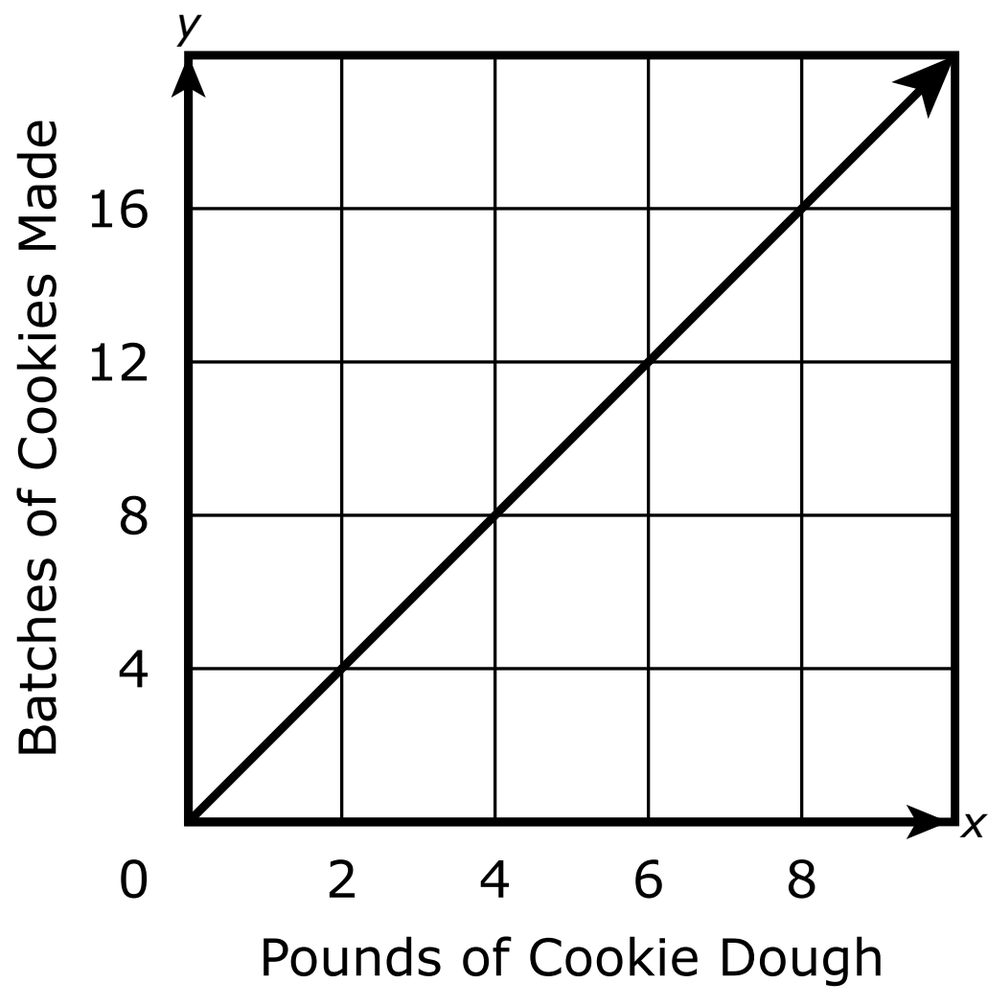
- How much time does the machine take to make 5 chairs?
- How many minutes would it take for the factory to fulfill an order for 32 chairs?

Show your work or explain how you determined your answers.

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

5

6 A baker made 8 pounds of cookie dough. The baker used the dough to make several batches of cookies. The graph shows the amount of cookie dough that is needed to make different numbers of batches of cookies.



Based on the graph, which statement correctly explains the number of batches of cookies the baker can make from the 8 pounds of dough?

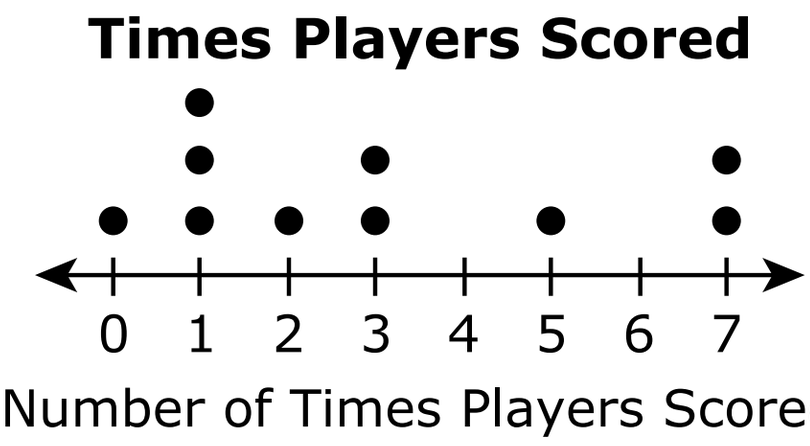
A The baker can make 8 batches of cookies because it takes 1 pound of dough to make 1 batch of cookies.

B The baker can make 16 batches of cookies because it takes 1 pound of dough to make 1 batch of cookies.

C The baker can make 8 batches of cookies because it takes 1 pound of dough to make 2 batches of cookies.

D The baker can make 16 batches of cookies because it takes 1 pound of dough to make 2 batches of cookies.

7 The coach of a basketball team recorded how many times each team player scored during a basketball game. The line plot shows the data the coach recorded.



Which statement about the data the coach recorded is true?

A The mean is 1.

B The median is 3.

C The interquartile range is 4.

D The mean absolute deviation is 7.

8 A phrase is shown.

7 less than the value represented by x

Which expression represents the phrase shown?

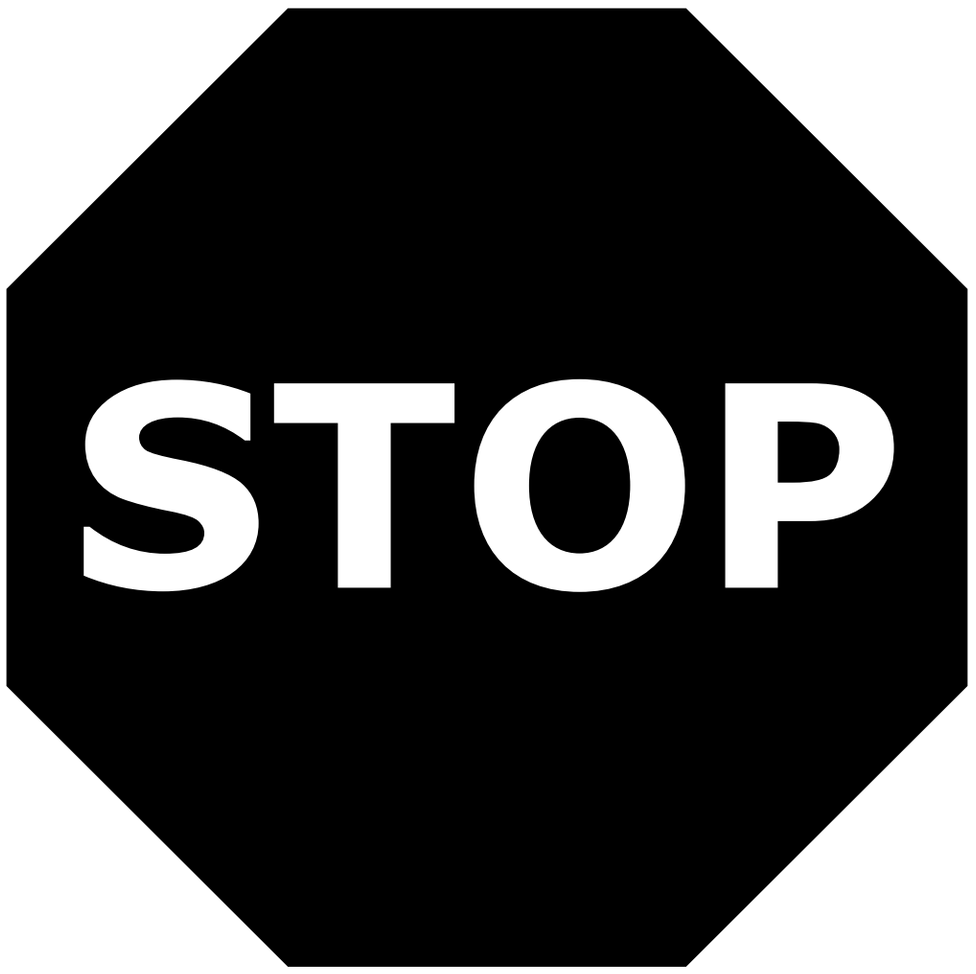
A $7 \div x$

B $7 - x$

C $x - 7$

D $x \div 7$

STOP



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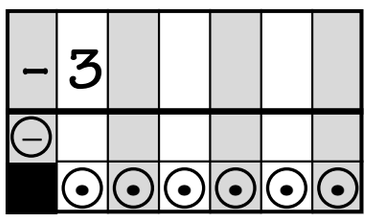

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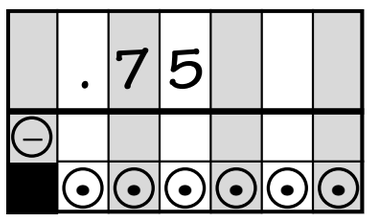


1 An equation is shown.

$$x + \frac{3}{2} = 2\frac{1}{4}$$

Which value from the set $\left\{\frac{3}{4}, 1, \frac{3}{2}, 3\frac{3}{4}\right\}$ is a solution to the equation?

A $\frac{3}{4}$

B 1

C $\frac{3}{2}$

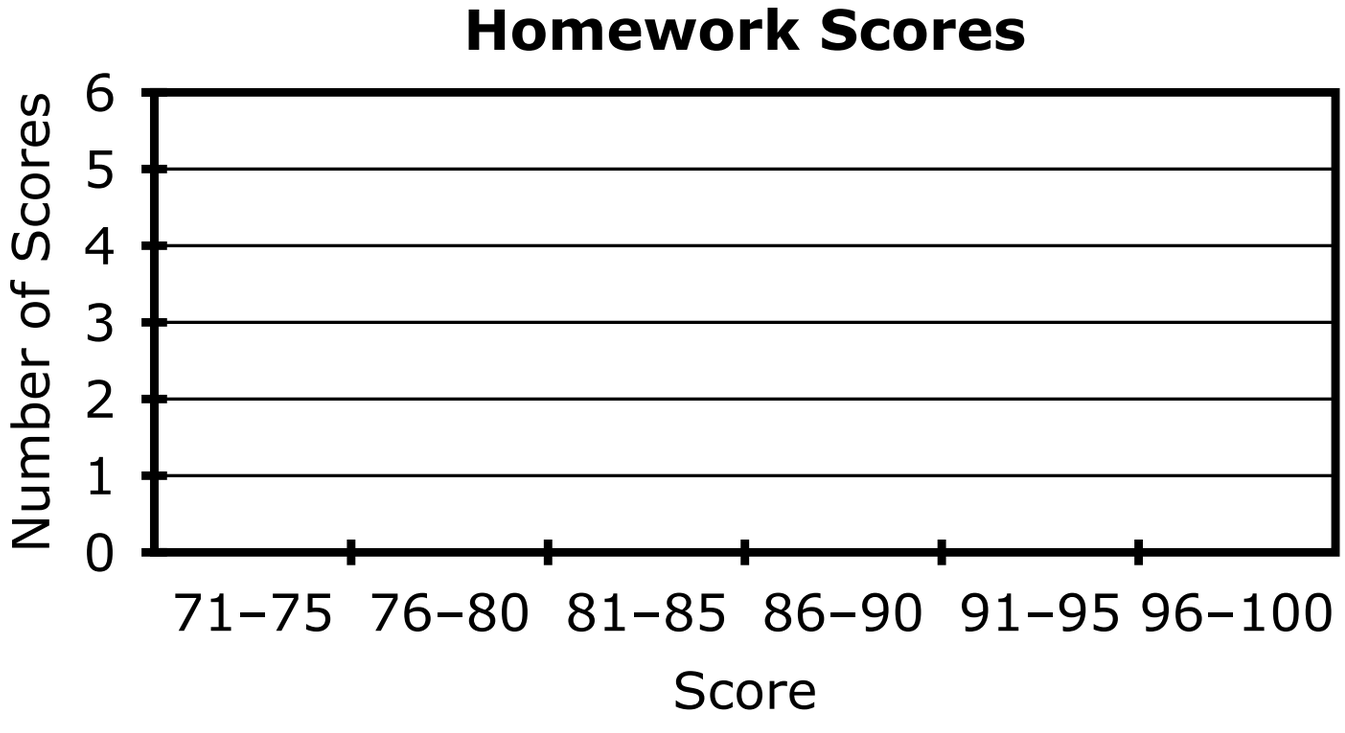
D $3\frac{3}{4}$

2 A student's scores on twenty homework assignments are shown.

Homework Scores

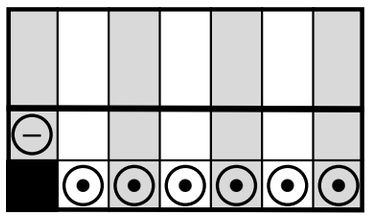
72	73	75	78	80
82	84	85	85	87
88	90	92	92	93
95	97	100	100	100

The student started to create the histogram shown to represent the homework scores in the table.

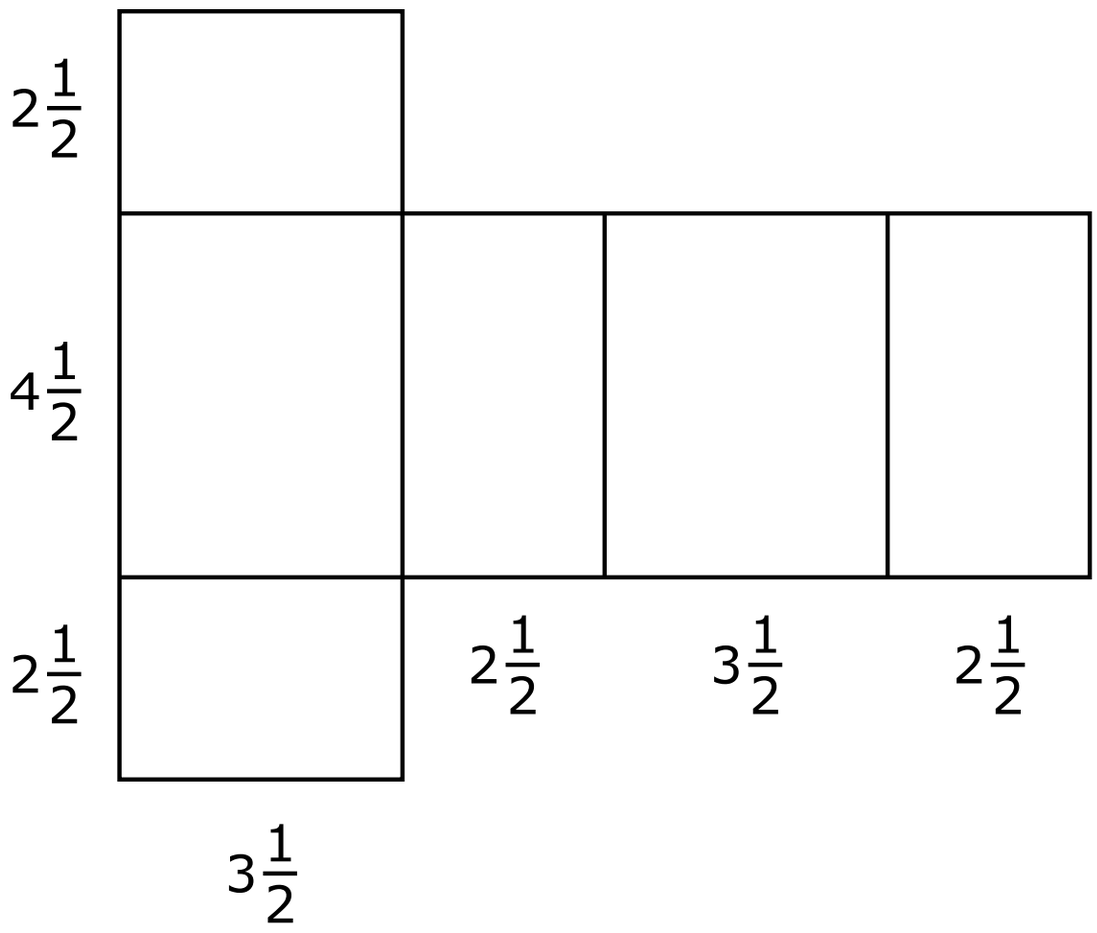


How many of the student's homework scores will be represented in the bar that is labeled "86-90"?

Enter your answer in the space provided.



3 The diagram shows the net of a wooden chest in the shape of a rectangular prism. All dimensions are in feet.



A painter will apply stain to all the faces of the wooden chest. The painter used the calculations shown to find the surface area, in square feet, of the wooden chest.

$$2\frac{1}{2} \times 3\frac{1}{2} = (2 \times 3) + \left(\frac{1}{2} \times \frac{1}{2}\right) = 6\frac{1}{4} \times 2 = 12\frac{1}{2}$$

$$2\frac{1}{2} \times 4\frac{1}{2} = (2 \times 4) + \left(\frac{1}{2} \times \frac{1}{2}\right) = 8\frac{1}{4} \times 2 = 16\frac{1}{2}$$

$$3\frac{1}{2} \times 4\frac{1}{2} = (3 \times 4) + \left(\frac{1}{2} \times \frac{1}{2}\right) = 12\frac{1}{4} \times 2 = 24\frac{1}{2}$$

The total surface area is $12\frac{1}{2} + 16\frac{1}{2} + 24\frac{1}{2} = 53\frac{1}{2}$ square feet.

- What mistake was made in the calculation of the surface area of the wooden chest?
- Find the correct surface area of the wooden chest.

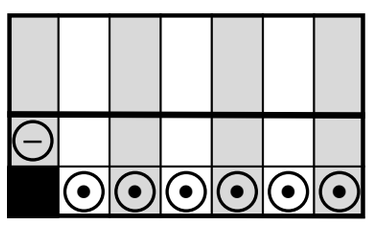
Enter your answers and your work or explanation in the space provided.

3

4 During a radio program that is 2 hours long, there are 10 minutes of advertisements.

At this same rate, how many minutes of advertisements would there be during a radio program that is 6 hours long?

Enter your answer in the space provided.



GO ON TO NEXT PAGE

5 An art teacher has a jar containing $\frac{3}{4}$ pound of glitter for use by the students in a class. The glitter is being separated into portions that are each $\frac{1}{10}$ pound of glitter.

The teacher asked, "What is the greatest number of whole portions that can be made?"

One student incorrectly obtains the answer of $\frac{4}{3} \times \frac{10}{1} = \frac{40}{3} = 13\frac{1}{3}$, and says 13 portions can be made.

- Explain the mistake that was made in the calculations.
- What is the correct answer to the question?

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

5

6 The expression $12x + 8$ is equivalent to the expression $a(bx + c)$, where b and c are constants and have no common factors. A student wrote the answer as $2(6x + 4)$.

Which statement **best** explains why the student's answer is incorrect and shows the correct expression?

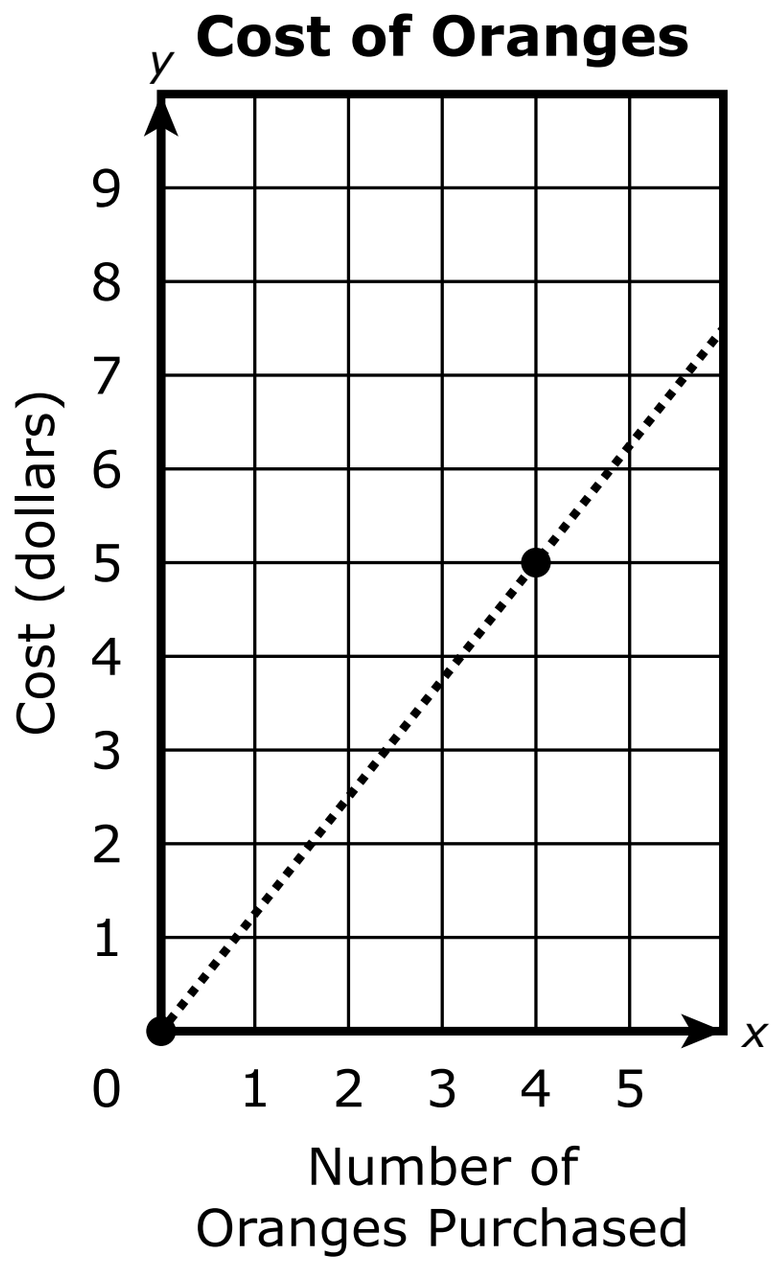
A The student's answer is incorrect because the greatest common factor of $12x$ and 8 is $2x$, so the correct expression is $2x(6x + 4)$.

B The student's answer is incorrect because the greatest common factor of $12x$ and 8 is $4x$, so the correct expression is $4x(3x + 2)$.

C The student's answer is incorrect because the greatest common factor of $12x$ and 8 is 4, so the correct expression is $4(3x + 2)$.

D The student's answer is incorrect because the greatest common factor of $12x$ and 8 is 8, so the correct expression is $8(4x + 1)$.

7 The graph shows the relationship between x, the number of oranges purchased at a market, and y, the total cost, in dollars, of the oranges.



Which **two** sentences include correct reasoning for finding the total cost of 12 oranges purchased at this market?

Select the **two** correct answers.

A Since 12 is 8 more than 4, the total cost would be $8 added to $5.

B Since 12 is 3 times as many as 4, the total cost would be 3 times $5.

C Since 4 oranges cost $5, the cost of each orange would be $5 divided by 4, and this cost should be added to 12.

D Since 5 oranges cost $4, the cost of each orange would be $4 divided by 5, and this cost should be added to 12.

E Since 4 oranges cost $5, the cost of each orange would be $5 divided by 4, and this cost should be multiplied by 12.

F Since 5 oranges cost $4, the cost of each orange would be $4 divided by 5, and this cost should be multiplied by 12.

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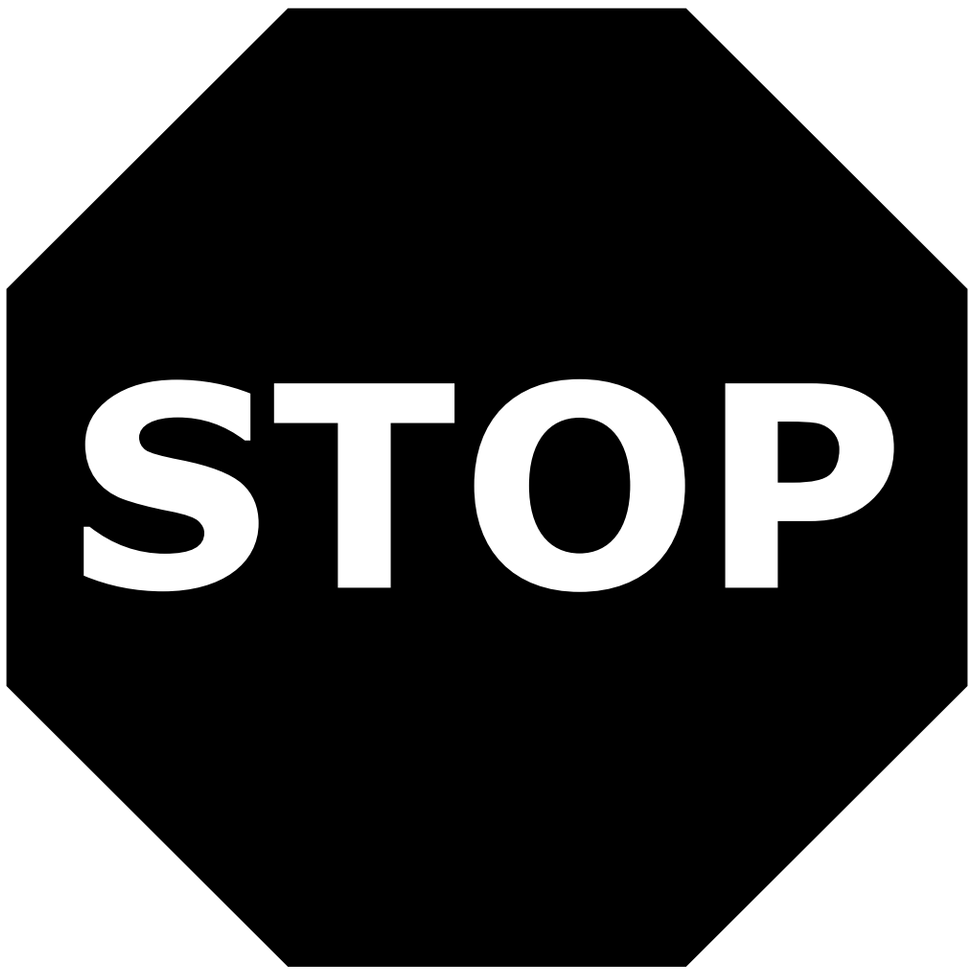

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Section 4
(Calculator)

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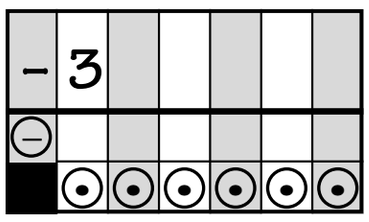

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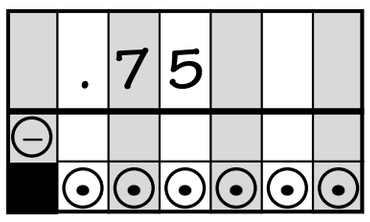
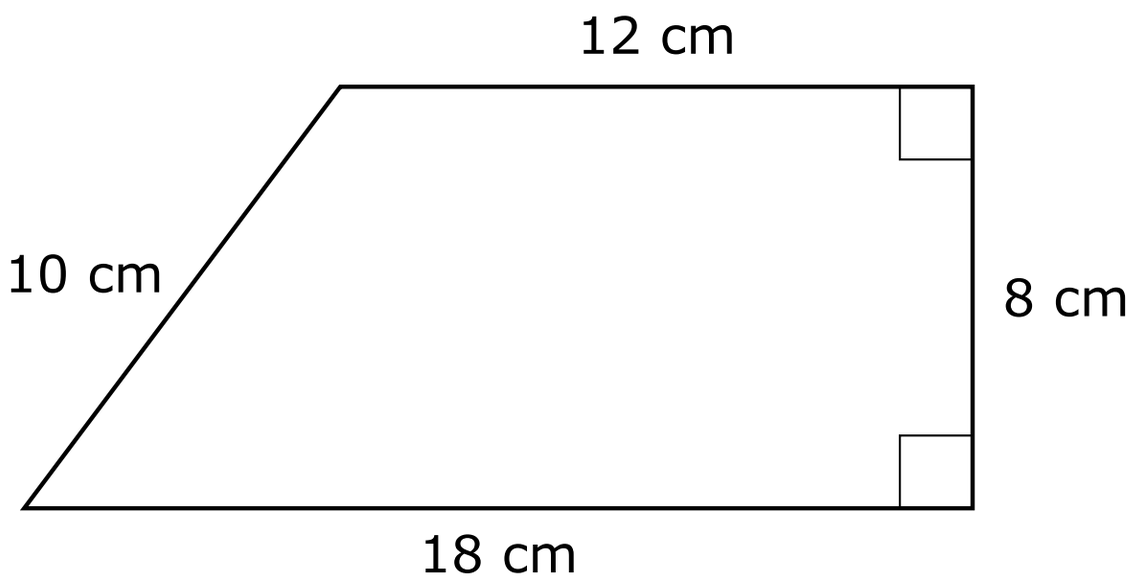


1 A trapezoid is shown with some of the dimensions given in centimeters.



What is the area, in square centimeters, of the trapezoid?

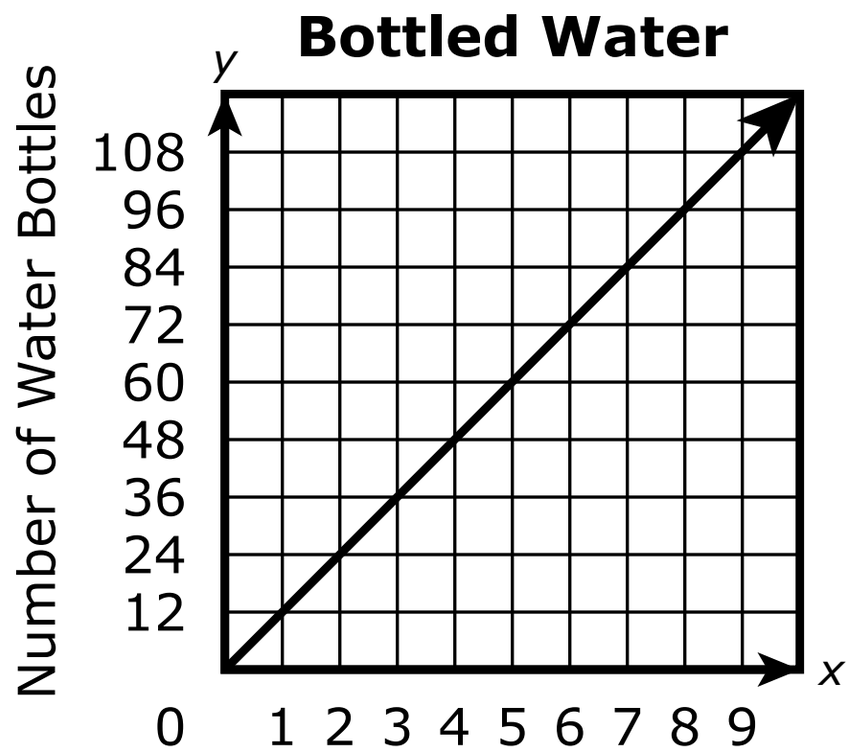
A 48

B 56

C 120

D 144

2 A person is buying packages of water bottles. The graph models the total number of water bottles in different numbers of packages.



Which equation models the relationship between x, the number of packages of bottled water purchased, and y, the number of water bottles?

A $y = 24x$

B $y = 12x$

C $y = 24 + x$

D $y = x + 12$

3 The equation $x + 5 = 12$ can be solved using one step.

Which statement provides a correct explanation and solution to the equation?

A Both sides of the equation should be multiplied by 5, and the solution is $x = 60$.

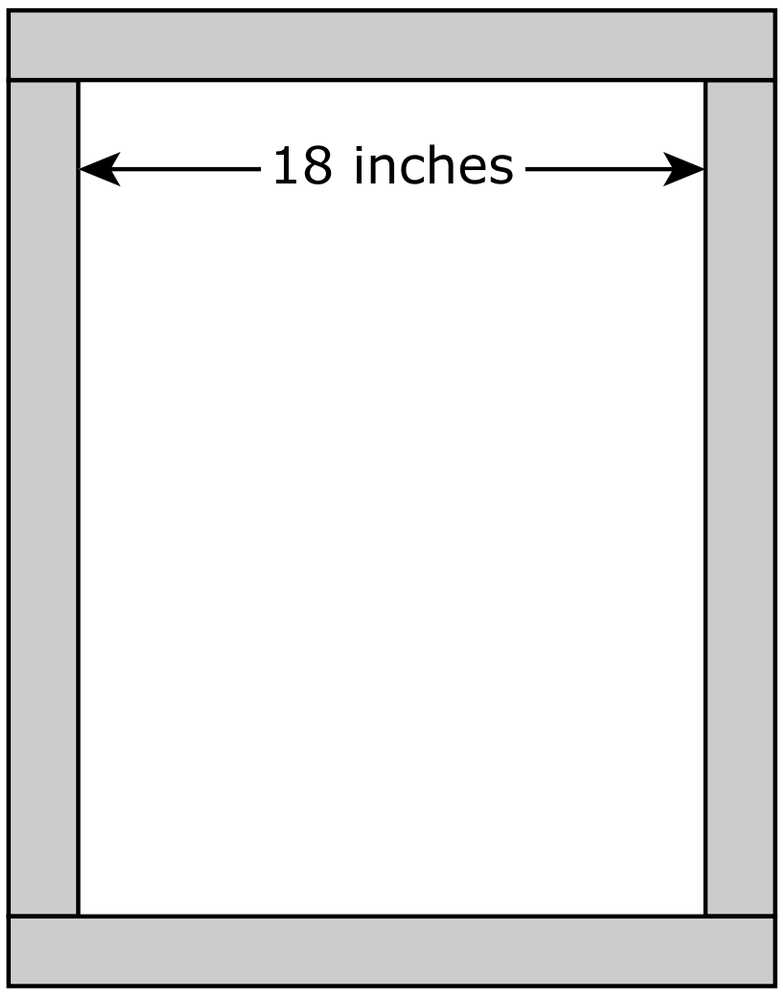
B The number 5 should be added to both sides of the equation, and the solution is $x = 17$.

C Both sides of the equation should be divided by the number 5, and the solution is $x = \frac{12}{5}$.

D The number 5 should be subtracted from both sides of the equation, and the solution is $x = 7$.

GO ON TO NEXT PAGE

4 Many frames are being made to hold a number of paintings that all have a width of 18 inches. The wood being used to make the frames is 2 inches wide.



- If the height of one of the paintings was 24 inches, what is the total length, in inches, of 2-inch wood that would be needed to make the frame? Show your work and your calculations.
- What is the number of square inches of wood that a frame would have if the painting had a height of 36 inches?

Enter your answer and your work in the space provided.

4

5 The table shows several values of x and y.

A student claims that since each value of y is 5 more than the corresponding value of x, that the ratio of y to x is 5 to 1 for the values in the table.

x	***y***
1	6
3	8
4	9

Which statement **best** explains whether the student's claim is correct or incorrect?

A The student's claim is correct because $6 - 1 = 5$, $8 - 3 = 5$, and $9 - 4 = 5$.

B The student's claim is incorrect because the ratio of y to x is different for each pair of corresponding x- and y-values.

C The student's claim is incorrect because the ratio of y to x is 1 to 5 for each pair of corresponding x- and y-values.

D The student's claim is incorrect because in the first two rows of values in the table, the ratio of the x-value to the y-value is 2 to 1 and not 5 to 1.

6 A machine at a company makes toy cars at a constant rate. The company received an order for toy cars that exceeded the number of toy cars that the company had in stock.

Which **three** pieces of information are needed to determine the amount of time it will take the machine to make enough additional toy cars to fill the order?

Select the **three** pieces of information that are needed.

A the cost to make each toy car

B the rate that the machine makes toy cars

C the number of toy cars requested in the order

D the number of people needed to run the machine

E the number of toy cars available when the order was received

7 A game designer used 9 ounces of clay to make 24 identical pieces for a game.

What is the number of ounces of clay that were used for each piece?

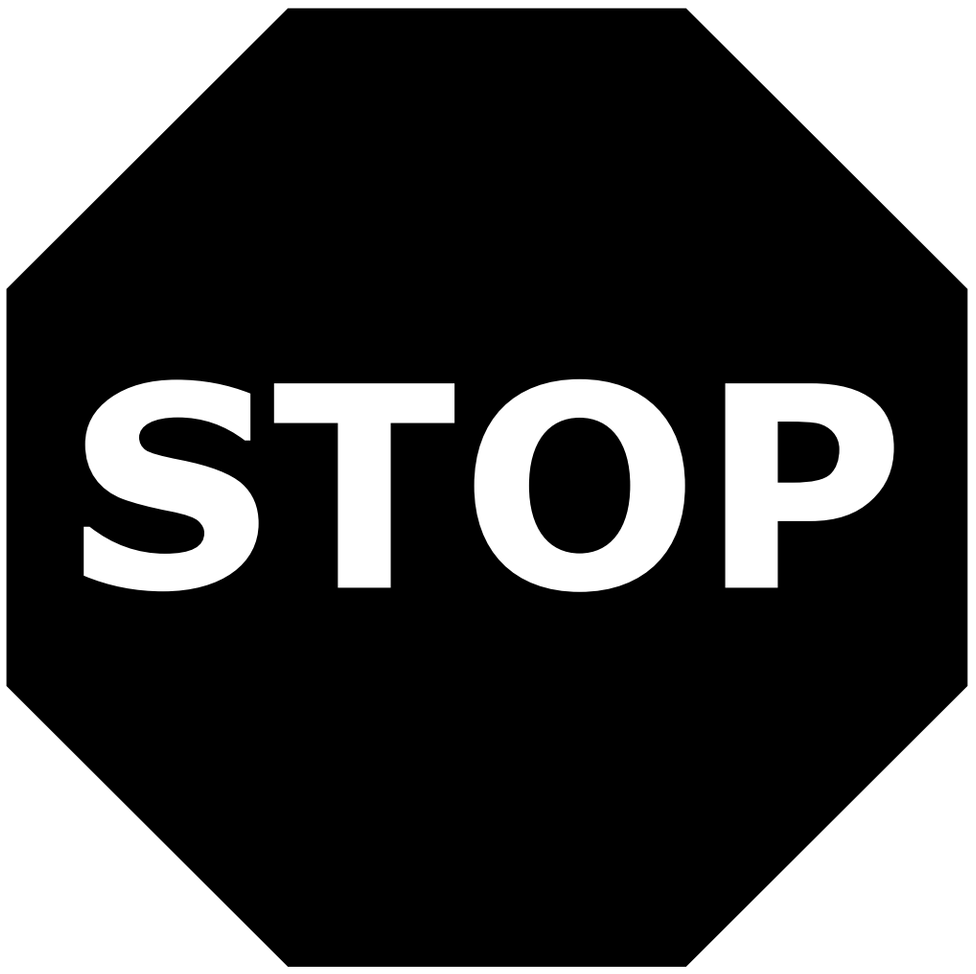
A $\frac{3}{8}$

B $\frac{5}{8}$

C $\frac{8}{5}$

D $\frac{8}{3}$

STOP



You have come to the end of Section 4 of the test. Review your answers from Section 4 only.

P

6-MATH

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