

Solve for x . Enter your answer in the space provided. Enter **only** your solution.

$$9(3 - 2x) = 2(10 - 8x)$$



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Which decimal is equivalent to $\frac{6}{11}$?

Select your answer.

- A. $0.18\bar{3}$
- B. $0.1\bar{83}$
- C. $0.5\bar{4}$
- D. $0.5\bar{4}$

Two lines are graphed on the same coordinate plane. The lines only intersect at the point $(3, 6)$. Which of these systems of linear equations could represent the two lines?

Select **all** that apply.

- A. $\begin{cases} x = 3 \\ y = 6 \end{cases}$
- B. $\begin{cases} x = 6 + y \\ y = 3 + x \end{cases}$
- C. $\begin{cases} y = 3x - 3 \\ y = x - 1 \end{cases}$
- D. $\begin{cases} x = 3 + y \\ y = 6 + x \end{cases}$
- E. $\begin{cases} y = x + 3 \\ y = 2x \end{cases}$

A relationship between x and y is defined by the equation $y = -\frac{4}{3}x + \frac{1}{3}$, where x is the input and y is the output. Which statements about the relationship are true?

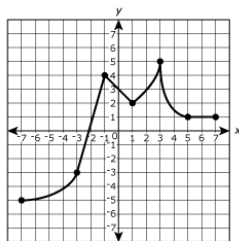
Select **each** correct statement.

- A. y is a function of x .
- B. The graph of the relationship is a line.
- C. When the input is -3 , the output is 4 .
- D. When the input is -2 , the output is 3 .
- E. The y -intercept of the relationship is $(0,1)$.

The body of a 154-pound person contains approximately 2×10^{-1} milligrams of gold and 6×10^1 milligrams of aluminum. Based on this information, the number of milligrams of aluminum in the body is how many times the number of milligrams of gold in the body?

Enter your answer in the box.

The graph shows y as a function of x .



For each interval in the table, indicate whether the function is increasing, decreasing, or neither increasing nor decreasing over the interval.

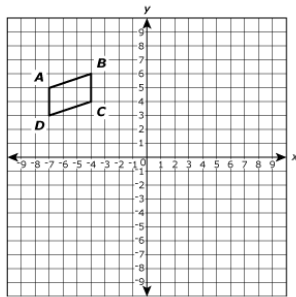
Interval	Increasing	Decreasing	Neither Increasing nor Decreasing
$-7 < x < -3$	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
$-3 < x < -1$	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
$-1 < x < 1$	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
$1 < x < 3$	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
$3 < x < 5$	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
$5 < x < 7$	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

The table shows two systems of linear equations.

Indicate whether each system of equations has no solution, one solution, or infinitely many solutions by selecting the correct cell in the table. Select one cell per column.

System of Equations	$\begin{cases} y = -x \\ 8y = -8x \end{cases}$	$\begin{cases} y = (3x + 1) \\ y = -4 \end{cases}$
No Solution	<input type="checkbox"/>	<input type="checkbox"/>
One Solution	<input type="checkbox"/>	<input type="checkbox"/>
Infinitely Many Solutions	<input type="checkbox"/>	<input type="checkbox"/>

Parallelogram $ABCD$ is shown on the coordinate plane.



Parallelogram $A'B'C'D'$ (not shown) is the image of parallelogram $ABCD$ after a rotation of 180° about the origin.

Which statements about parallelogram $A'B'C'D'$ are true?

Select **each** correct statement.

- A. $\overline{A'B'}$ is parallel to $\overline{B'C'}$.
- B. $\overline{A'B'}$ is parallel to $\overline{A'D'}$.
- C. $\overline{A'B'}$ is parallel to $\overline{C'D'}$.
- D. $\overline{A'D'}$ is parallel to $\overline{B'C'}$.
- E. $\overline{A'D'}$ is parallel to $\overline{D'C'}$.

Which equation has **both** 4 and -4 as possible values of y ?

- A. $y^2 = 8$
- B. $y^3 = 8$
- C. $y^2 = 16$
- D. $y^3 = 64$

When the input to a function is -2 , the output is 4.
Which statement about this function **must** be true?

- A. An input of -2 has infinitely many possible outputs.
- B. An input of -2 has exactly one possible output.
- C. An output of 4 has infinitely many inputs.
- D. An output of 4 has exactly one input.

A system of equations is shown.

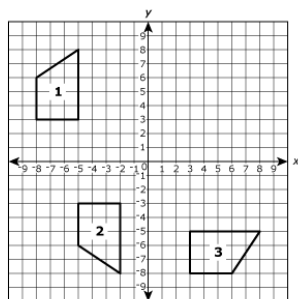
$$\begin{cases} x = 10 \\ 3x + 5y = 20 \end{cases}$$

What is the solution (x, y) of the system of equations?

Enter your answers in the boxes.

(,)

Three congruent figures are shown on the coordinate plane.



Part A

Select a transformation from each drop-down menu to make the statement true.

Figure 1 can be transformed onto figure 2 by

Choose... followed by
Choose...

Part B

Figure 3 can also be created by transforming figure 1 with a sequence of two transformations.

Select a transformation from each drop-down menu to make the statement true.

Figure 1 can be transformed onto figure 3 by

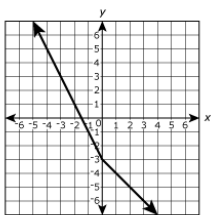
Choose... followed by
Choose...

Which expressions are equivalent to $\frac{3^{-8}}{3^{-4}}$?

Select **all** that apply.

- A. 3^{-12}
- B. 3^{-4}
- C. 3^2
- D. $\frac{1}{3^2}$
- E. $\frac{1}{3^4}$
- F. $\frac{1}{3^{12}}$

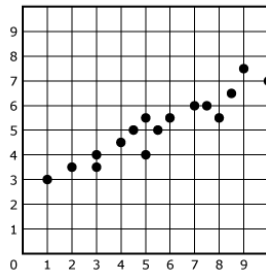
The graph of a nonlinear function is shown on the coordinate plane. In the graph, y is a function of x .



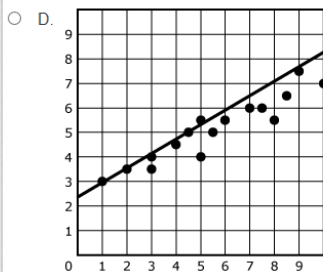
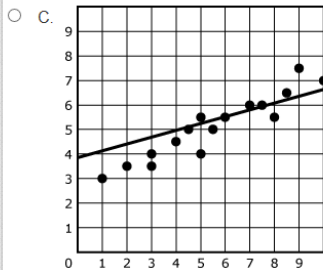
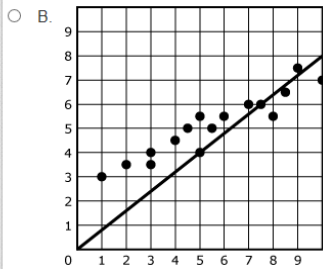
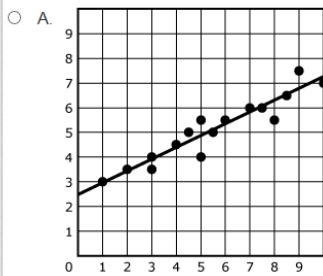
When the input of the function is -4 , what is the output of the function?

- A. -5
- B. -1
- C. 1
- D. 5

A scatter plot is shown on the coordinate plane.



Which of these **most closely** approximates a line of best fit for the data in the scatter plot?



Solve for x .

$$\frac{1}{5}(2x - 10) + 4x = -3\left(\frac{1}{5}x + 4\right)$$

Enter your answer in the space provided. Enter **only** your solution.

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Select the point on the number line that **best** approximates the location of $\sqrt{14}$.

