

$$6x - 9y > 12$$

Which of the following inequalities is equivalent to the inequality above?

A.  $x - y > 2$

B.  $2x - 3y > 4$

C.  $3x - 2y > 4$

D.  $3y - 2x > 2$

$$x = 49$$
$$y = \sqrt{x} + 9$$

The graphs of the given equations intersect at the point  $(x, y)$  in the  $xy$ -plane. What is the value of  $y$ ?

- A. 16
- B. 40
- C. 81
- D. 130

$$6r = 7s + t$$

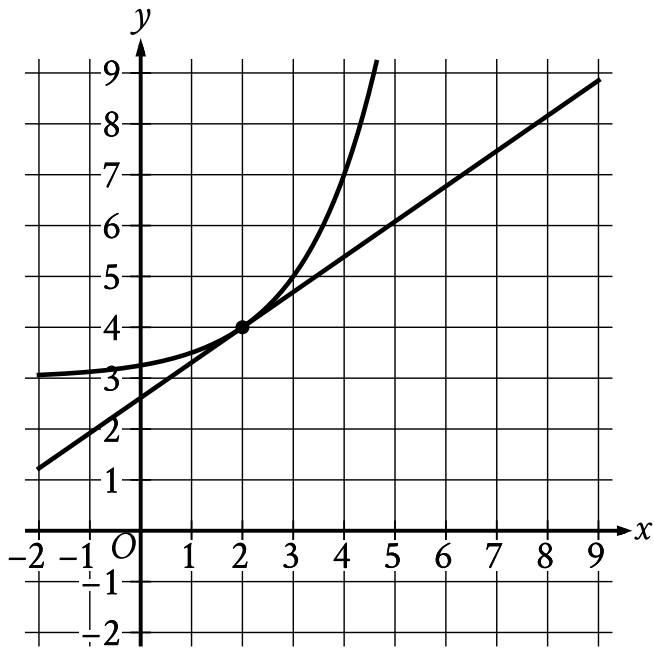
The given equation relates the variables  $r$ ,  $s$ , and  $t$ . Which equation correctly expresses  $s$  in terms of  $r$  and  $t$ ?

A.  $s = 42r - t$

B.  $s = 7(6r - t)$

C.  $s = \frac{6}{7}r - t$

D.  $s = \frac{6r-t}{7}$



The graph of a system of a linear equation and a nonlinear equation is shown. What is the solution  $(x, y)$  to this system?

- A.  $(0, 0)$
- B.  $(0, 2)$
- C.  $(2, 4)$
- D.  $(4, 0)$

Which of the following is a solution to the equation  $2x^2 - 4 = x^2$  ?

- A. 1
- B. 2
- C. 3
- D. 4

$$q - 29r = s$$

The given equation relates the positive numbers  $q$ ,  $r$ , and  $s$ . Which equation correctly expresses  $q$  in terms of  $r$  and  $s$ ?

A.  $q = s - 29r$

B.  $q = s + 29r$

C.  $q = 29rs$

D.  $q = -\frac{s}{29r}$

$$x + y = 12$$

$$y = x^2$$

If  $(x, y)$  is a solution to the system of equations above, which of the following is a possible value of  $x$ ?

- A. 0
- B. 1
- C. 2
- D. 3

$$P = \frac{W}{t}$$

The power  $P$  produced by a machine is represented by the equation above, where  $W$  is the work performed during an amount of time  $t$ . Which of the following correctly expresses  $W$  in terms of  $P$  and  $t$ ?

A.  $W = Pt$

B.  $W = \frac{P}{t}$

C.  $W = \frac{t}{P}$

D.  $W = P + t$



$$x + 7 = 10$$

$$(x + 7)^2 = y$$

Which ordered pair  $(x, y)$  is a solution to the given system of equations?

A.  $(3, 100)$

B.  $(3, 3)$

C.  $(3, 10)$

D.  $(3, 70)$

$$\frac{x^2}{25} = 36$$

What is a solution to the given equation?

- A. 6
- B. 30
- C. 450
- D. 900

$$|x - 2| = 9$$

What is one possible solution to the given equation?

$$x^2 = 64$$

Which of the following values of  $x$  satisfies the given equation?

- A.  $-8$
- B.  $4$
- C.  $32$
- D.  $128$

The total revenue from sales of a product can be calculated using the formula  $T = PQ$ , where  $T$  is the total revenue,  $P$  is the price of the product, and  $Q$  is the quantity of the product sold. Which of the following equations gives the quantity of product sold in terms of  $P$  and  $T$ ?

A.  $Q = \frac{P}{T}$

B.  $Q = \frac{T}{P}$

C.  $Q = PT$

D.  $Q = T - P$

$$b = 42cf$$

The given equation relates the positive numbers  $b$ ,  $c$ , and  $f$ . Which equation correctly expresses  $c$  in terms of  $b$  and  $f$ ?

A.  $c = \frac{b}{42f}$

B.  $c = \frac{b-42}{f}$

C.  $c = 42bf$

D.  $c = 42 - b - f$

If  $(x + 5)^2 = 4$ , which of the following is a possible value of  $x$  ?

- A. 1
- B.  $-1$
- C.  $-2$
- D.  $-3$

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$$\sqrt{x+4} = 11$$

What value of  $x$  satisfies the equation above?