

Question 1 of 14

Solve the equation. Simplify your answer if possible.

$$22 = 8 + 3(7y + 3)$$

The solution set is .

Question 2 of 14

Solve the equation.

$$0.40(a + 8) - 0.60(a + 6) = 0$$

The solution set is .

Question 3 of 14

Identify the equation as a conditional equation, a contradiction, or an identity. Then give the solution set.

$$3(8 - 8w) - 4 = -6w - 2 - 18w$$

Part 1 of 2

The equation is

- ☐ a conditional equation.
- ☐ a contradiction.
- ☐ an identity.

Part 2 of 2

The solution set is .

Question 4 of 14

Identify the equation as a conditional equation, a contradiction, or an identity. Then give the solution set.

$$-(2 - 7n) = 3(8n - 6) - 17n + 16$$

Part 1 of 2

The equation is

- ☐ a conditional equation.
- ☐ a contradiction.
- ☐ an identity.

Part 2 of 2

The solution set is .

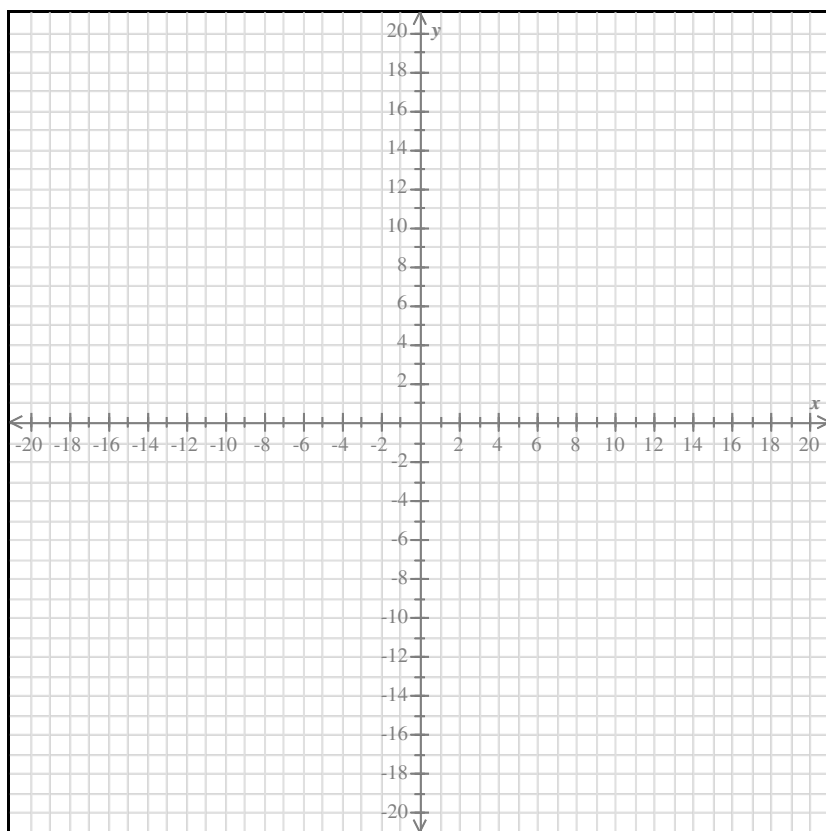
Question 5 of 14

Graph the equation and identify the x - and y -intercepts.

$$x - 2y = -4$$

Part 1 of 2

Graph $x - 2y = -4$.



Part 2 of 2

Identify the x - and y -intercepts. Write each intercept as an ordered pair.

x -intercept(s):

y -intercept(s):

Question 6 of 14

(a) Write the equation in slope-intercept form, and determine the slope and y -intercept.

(b) Graph the equation using the slope and y -intercept.

$$-3x + 4y = -12$$

Part 1 of 2

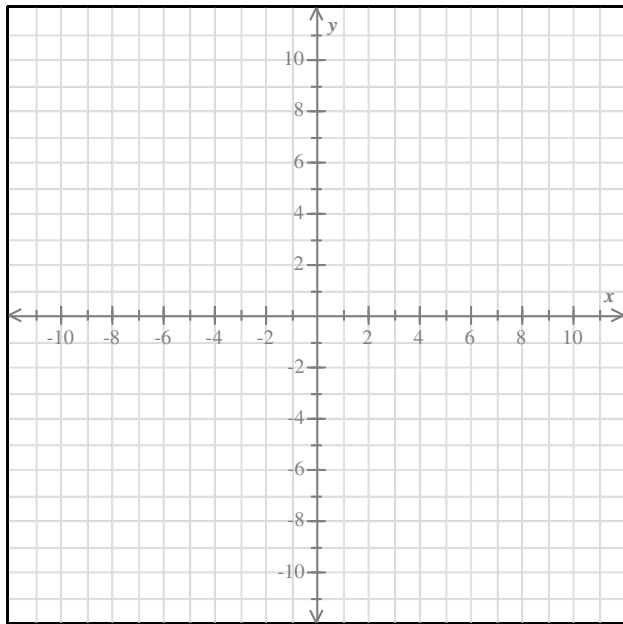
(a) The equation written in slope-intercept form is .

The slope is .

The y -intercept is . (Write your answer as an ordered pair.)

Part 2 of 2

(b) Graph the equation using the slope and y -intercept.



Question 7 of 14

Determine if the ordered pair is a solution to the system of equations.

$$3x - 4y = -3$$

$$7x - 3y = 12$$

(a) $\left(5, \frac{5}{6}\right)$

(b) $(3, 3)$

Part 1 of 2

The ordered pair $\left(5, \frac{5}{6}\right)$ a solution to the system of equations.

The ordered pair $(3, 3)$ a solution to the system of equations.

Question 8 of 14

Solve the system of equations by using the substitution method.

$$x + 2y = 16$$

$$5x - 3y = 2$$

The solution set is $\{\square\}$.

Question 9 of 14

Solve the system of equations by using the substitution method.

$$2(x + y) = 23 - 2y$$

$$6x - 7 = 20 - 5y$$

The solution set is $\{\square\}$.

Question 10 of 14

Solve the system of equations by using the addition method.

$$5x - 4y = -34$$

$$15x + 5y = 0$$

The solution set is $\{\square\}$.

Question 11 of 14

Solve the system of equations by using the addition method. Write the answer in simplest form.

$$0.16x + 0.05y = 0.17$$

$$0.25x - 0.15y = 0.22$$

The solution set is $\{\square\}$.

Question 12 of 14

Solve the system by using any method. If a system does not have one unique solution, state whether the system is inconsistent or whether the equations are dependent.

$$6 + 4(x + 3y) = 7y + 6$$

$$4x + 9 = 9 - 3y$$

☐

The system has one solution.

The solution set is $\{\text{ } \}$.

☐

The system has no solution, $\{ \}$.

☐

The system is inconsistent.

☐

The equations are dependent.

☐

The system has infinitely many solutions.

The solution set is $\{\text{ } \mid x \text{ is any real number} \}$.

☐

The system is inconsistent.

☐

The equations are dependent.

Question 13 of 14

The average of an electrician's hourly wage and a plumber's hourly wage is \$34. One day a contractor hires an electrician for 8 hr of work and the plumber for 5 hr of work and pays a total of \$406 in wages. Find the hourly wage for the electrician and for the plumber.

Part 1 of 6

Let a represent the hourly wage for the electrician.

Let p represent the hourly wage for the plumber.

There are two unknown quantities. We will set up a system of two independent equations relating a and p .

$$\left(\begin{array}{c} \text{Average hourly wage} \\ \text{of the electrician and plumber} \end{array} \right) = \$34$$

Therefore, $\frac{\boxed{}}{2} = 34.$

$$\left(8 \text{ hr } \frac{\$a}{\text{hr}} \right) + \left(5 \text{ hr } \frac{\$p}{\text{hr}} \right) = \$406$$

Therefore, $\boxed{} = 406.$

Part 2 of 6

Multiply by 2 to eliminate the fraction in the first equation.

$$a + p = \boxed{}$$

$$8a + 5p = 406$$

Part 3 of 6

We will solve the system by using the addition method. To create opposite coefficients for the variable p , multiply the first equation by $\boxed{}$.

Part 4 of 6

$$-5a - 5p = -340$$

$$8a + 5p = 406$$

$$\boxed{} = \boxed{}$$

$$a = \boxed{}$$

Part 5 of 6

Substitute $a = 22$ into $a + p = 68$.

$$22 + p = 68$$

$$p = \boxed{}$$

Part 6 of 6

Thus, the electrician makes \$ $\boxed{}$ /hr and the plumber makes \$ $\boxed{}$ /hr.

Question 14 of 14

A radiator has 20 L of a 60 % antifreeze solution. How much must be drained and replaced by pure antifreeze to bring the concentration level up to 70 % ?

$\boxed{}$ L of the 60 % should be drained and replaced by pure antifreeze.

