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Solving Equations
Solving Linear Equations for 100.

\[5x - 3 = 47. \quad x = ?\]

8

16

19

10

9
Solving Linear Equations for 200.

\[ \frac{2}{5} x = 8, \quad x = ? \]

8/5
4
1/5
20
40
Solving Linear Equations for 300.

\[ 3x + 4 = -2x + 19, \quad x = ? \]

19

-23/3

4

3

-3
Solving Linear Equations for 400.

\[2x + 16 = 7x + 1, \quad x = ?\]

-4
2
3
0
-2
Solving Quadratic Equations for 100.

\[ x^2 = 144, \quad x = ? \]

72
12
-12
-12 or 12
144 or -144
Solving Quadratic Equations for 200.

\[ x^2 + 10x + 16 = 0, \quad x = ? \]

4 or -4
-1 or 16
2 or 8
-2 or -8
Solving Quadratic Equations for 300.

$$3x^2 + 2x = 0, \quad x = ?$$

2 or 3
-3 or 0
0 or 1/2
0 or -3/2
3/2 or 0
Solving Quadratic Equations for 400.

\[ x(x - 3) + 2 = 0, \quad x = ? \]

3 or 2
0 or 3
1 or -2
2 or 1
-2 or 2
Solving Systems of Linear Equations for 100.

\[
\begin{align*}
x + y &= 0 \\
-x + y &= 4
\end{align*}
\]

\[x = , \ y = ?\]

\[x = 0, \ y = 0\]
\[x = 2, \ y = 2\]
\[x = -2, \ y = 2\]
\[x = 4, \ y = 0\]
\[x = -2, \ y = -2\]
Solving Systems of Linear Equations for 200.

\[2x + 3y = 25\]
\[-2x + y = -5\]

\[x = , y = ?\]

\[x = 0, \ y = 0\]
\[x = 10, \ y = 5\]
\[x = 5, \ y = 5\]
\[x = 2, \ y = 3?\]
\[x = 5, \ y = -5?\]
Solving Systems of Linear Equations for 300.

\[ 2x = y + 2 \]
\[ y = 5x - 5 \]

\[ x = , \ y =? \]

- \[ x = 2, \ y = 1 \]
- \[ x = 1, \ y = 1 \]
- \[ x = 1, \ y = 0 \]
- \[ x = 5, \ y = 2? \]
- \[ x = 2, \ y = -5? \]
Solving Systems of Linear Equations for 400.

\[
\begin{align*}
2(x + 2) - 3y &= 2(y - 1) + 6 \\
-2(x - 1) + y &= 2
\end{align*}
\]

\[x = , \ y = ?\]

\[x = -2, \ y = 1\]
\[x = 0, \ y = 1\]
\[x = 0, \ y = 0\]
\[x = 2, \ y = 1?\]
\[x = 2, \ y = -3?\]
Solving Systems of Linear Equations for 500.

\[ x(x + 2) - 3y = x(x - 1) - 6 \]
\[ 2x + y(y + 2) = y^2 \]

\[ x = , \ y = ? \]

\[ x = -2, \ y = 1 \]
\[ x = 0, \ y = 1 \]
\[ x = -1, \ y = 1 \]
\[ x = 2, \ y = 1? \]
\[ x = 2, \ y = -3? \]
Stupid questions for 100.

\[ x = x, \quad y = y. \quad x = ?, \quad y = ? \]

\[ x = y, \quad y = x \]
\[ x = 0, \quad y = 0 \]
\[ x = \text{anynumber}, \quad y = \text{anynumber} \]
\[ x = y? \]

no solution
Stupid questions for 200.

\[ x = y \quad y = 2 \quad x = \quad y = ? \]

\[ x = 0, \quad y = -2 \]
\[ x = -2, \quad y = -2 \]
\[ x = \text{anynumber}, \quad y = \text{anynumber} \]

no solution

\[ x = 2, \quad y = 2 \]
Stupid questions for 300.

\[ x + y = 5 \quad x + y = 2 \quad x = , \quad y = ? \]

- \( x = y, \ y = 5 \)
- \( x = 2, \ y = 5 \)
- \( x = \text{anynumber}, \ y = \text{anynumber} \)
- \( x = 5, \ y = 2 \)

no solution
Which solution best describes the following system?

\[ x + y = 12 \]
\[ x + y = 12. \]

\[ x = , \ y = ? \]

- \( x = y, \ y = 2 \)
- \( x = 12, \ y = 12 \)
- \( x = 6, \ y = 6 \)
- no solution
- \( x = \text{anynumber}, \ y = \text{anynumber} \)
Stupid questions for 500.

Let $x^2 = -9$. What real $x$ solves the problem?

- $x = -9$
- $x = 9$
- $x = -3$ or $x = 3$
- $x = 2/9$
- No solution
Completing the squares for 100.

Let \((x + 1)^2 = 4\). What is \(x = ?\).

\[
x = 4 \text{ or } x = -4
\]
\[
x = 2 \text{ or } x = -2
\]
\[
x = 1 \text{ or } x = -1
\]
\[
x = 1 \text{ or } x = -3
\]
\[
x = 0
\]
Completing the squares for 200.

Let \((x + 3)^2 = -4\). What is \(x =?\).

\[x = 4 \text{ or } x = -4\]
\[x = 3 \text{ or } x = -3\]
\[x = 1 \text{ or } x = -1\]

No solution
\[x = 0\]
Completing the squares for 300.

Let $2(x + 1)^2 - 2 = 16$. What is $x = ?$.

$x = 2$ or $x = -2$

$x = 0$ or $x = -16$

$x = 1$ or $x = -1$

$x = 2$ or $x = -4$

No solution
Completing the squares for 400.

Let $-3(x - 2)^2 + 3 = -24$. What is $x =$?.

$x = 3$ or $x = -3$
$x = 2$ or $x = -2$
$x = 1$ or $x = -1$
$x = 5$ or $x = -1$
$x = 0$