



1-5 Additional Practice

Solving Equations and Inequalities by Graphing

Use a graph to solve each equation.

1. $4x + 6 = 8x - 10$

$x = 4$

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

$x = -12$

3. $|4 - 2x| + 5 = 9$

$x = 0 \text{ or } 4$

Use a graph to solve each inequality.

4. $x^2 + 4x - 5 < 0$

$-5 < x < 1$

5. $x^2 - x - 12 \geq 0$

$x \leq -3 \text{ or } x \geq 4$

6. $-2x + 5 < -7 - 3x$

$x < -12$

Use a graph and a table to solve the equation. Round to the nearest thousandth if necessary.

7. $x^2 + 3x - 5 = 4x + 3$

$x \approx -2.372 \text{ and } 3.372$

8. $x^2 - 7x - 5 = \frac{1}{2}x - 4$

$x \approx -0.131 \text{ and } 7.631$

9. $x^2 - 4x - 1 = x^2 + 2x + 4$

$x \approx -0.833$

Use graphing technology to approximate the solutions of the equation to the nearest tenth.

10. $\frac{1}{3}x^2 + 2x - 9 = 6 + |x - 2|$

$x \approx -12.9 \text{ and } 4.9$

11. $x^2 + 5x - 2 = 6 + |3x + 1|$

$x \approx -8.8 \text{ and } 2.2$

12. $3 + |x - 3| = \frac{1}{3}|x + 2| + 5$

$x \approx 0.3 \text{ and } 8.5$

13. David begins the summer with a savings of \$54.00 more than Fatima. David's job pays \$8.25 per hour. Fatima's job pays \$9.75. If they both work the same amount of time each day, how many hours of work will it take David to have as much money as Fatima? Write an inequality and then solve.

$54 + 8.25x \leq 9.75x \quad x \geq 36; \text{ David will need to work at least 36 hours to have as much money as Fatima.}$

14. If you use a graph and a table to solve an equation that shows two expressions equal to one another, how can you use algebra to check your answer?

Input the approximate answer into each expression. Check to see if the result, which is an estimate, is close to the correct answer. If the answer is too far from the correct answer, then you may need to reexamine the table and graph.