

Reasoning with Equation and Inequalities - Worksheet 4

Answer Key

Solve the following equations:

1. $x^2 + 6x + 9 = 0$

$$x = -3.$$

6. $(3x + 2)^2 + 8 = 9$

$$x = -\frac{1}{3}, -1.$$

2. $2x^2 + 4x + 8 = 0$

No real solutions.

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

$$-x = \frac{5 \pm \sqrt{17}}{4}.$$

3. $(x - 1)^2 - 7 = 3$

$$x = 1 \pm \sqrt{10}.$$

8. $\frac{1}{2}x^2 + 6x - \frac{5}{2} = 1$

$$x = -6 \pm \sqrt{43}.$$

4. $x^2 + 4x = 2$

$$x = \pm\sqrt{4} - 2.$$

9. $3x^2 + 6x = -2$

$$x = \pm\sqrt{\frac{1}{3}} - 1.$$

5. $\frac{1}{2}x^2 - 3x + 4 = 0$

$$x = 2, 4.$$

10. For what values of b does the equation $x^2 + bx + 4 = 0$ have one solution?
 $b = -4, 4.$

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