Reasoning with Equation and Inequalities - Worksheet 4 Answer Key

Solve the following equations:

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

   $x = -3$.

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

   No real solutions.

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

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

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

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

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

   $x = 2, 4$.

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

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

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

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

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

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

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

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

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