Extra Worksheet 1.1

Name _____

1. Solve by completing the square.

$3x^2 + 18x - 9 = 0$

2. Solve by extracting square roots.

$(2x - 6)^2 + 5 = 25$

3. Solve by factoring.

$2x^2 - 5x - 63 = 0$

Solve.

4. $|4x - 13| = 11$

5. $|x + 7| = 2x + 4$

Solve algebraically. Write solutions interval notation.

6. $12|9x - 12| > 72$

7. $\frac{3}{8} - \frac{x+6}{4} \leq \frac{5x-1}{2}$

8. Find the equation of a line in point –slope form that is parallel to $3x - 8y = 10$ and passes through the point (-10, -9).

Extra Worksheet 1.1

Review Worksheet

Name _____

1. Solve by completing the square.

$3x^2 + 18x - 9 = 0$

$x^2 + 6x - 3 = 0$

$x^2 + 6x = 3$

$(x+3)^2 = 3 + 9 = 12$

$x + 3 = \pm\sqrt{12}$

$x = -3 \pm 2\sqrt{3}$

2. Solve by extracting square roots.

$(2x-6)^2 + 5 = 25$

$(2x-6)^2 = 20$

$2x - 6 = \pm\sqrt{20}$

$2x = 6 \pm 2\sqrt{5}$

$x = \frac{6 \pm 2\sqrt{5}}{2}$

$x = 3 \pm \sqrt{5}$

3. Solve by factoring.

$2x^2 - 5x - 63 = 0$

$(2x+9)(x-7) = 0$

$x = -\frac{9}{2}$ or $x = 7$

Solve.

4. $|4x - 13| = 11$

$4x - 13 = 11$ or $-(4x-13) = 11$

$4x = 24$ or $4x - 13 = -11$

$4x = 2$

$x = 6$ or $x = \frac{1}{2}$

$x = 6$ or $\frac{1}{2}$

5. $|x + 7| = 2x + 4$

$x + 7 = 2x + 4$ or $-(x+7) = 2x + 4$

$3 = x$ or $x + 7 = -2x - 4$

$3x = -11$

$x = -\frac{11}{3}$

Check: $|3+7| \stackrel{?}{=} 2(3)+4$

$10 = 10$ ✓

$x = 3$

Check: $\left|-\frac{11}{3} + 7\right| \stackrel{?}{=} 2\left(-\frac{11}{3}\right) + 4$

$\frac{10}{3} \neq -\frac{10}{3}$

Solve algebraically. Write solutions interval notation.

6. $12|9x - 12| > 72$

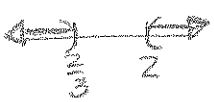
$|9x - 12| > 6$

$9x - 12 > 6$ or $-(9x-12) > 6$

$9x > 18$ or $9x - 12 < -6$

$x > 2$ or $9x < 6$

$x < \frac{2}{3}$



$(-\infty, \frac{2}{3}) \cup (2, \infty)$

7. $\frac{3}{8} - \frac{x+6}{4} \leq \frac{5x-1}{2}$ LCD = 8

$3 - 2(x+6) \leq 4(5x-1)$

$3 - 2x - 12 \leq 20x - 4$

$-5 \leq 22x$

$-\frac{5}{22} \leq x$

$\left[-\frac{5}{22}, \infty\right)$

8. Find the equation of a line in point –slope form that is parallel to $3x - 8y = 10$ and passes through the point (-10, -9).

$-8y = 10 - 3x$

$y = -\frac{10}{8} + \frac{3}{8}x$

$y + 9 = \frac{3}{8}(x + 10)$