

## Sections 3.4 & 3.5 Review

In addition to the problems presented here, study your notes and problems from previous assignments.

1. Solve for  $x$  and express your solution in interval notation:  $-3(x - 4) \leq 5 + x$

$$\left[\frac{7}{4}, \infty\right)$$

2. Solve for  $x$  and express your solution in interval notation:  $-4 < 2x + 5 < 9$

$$\left(-\frac{9}{2}, 2\right)$$

3. Solve and express your solution in interval notation:  $\frac{2x - 1}{3x + 1} < 1$

$$(-\infty, -2) \cup \left(-\frac{1}{3}, \infty\right)$$

4. Solve and express your solution in interval notation:  $\frac{2}{x + 1} < x$   $(-2, -1) \cup (1, \infty)$

5. Solve and express your solution in interval notation:  $x^2 + x > 12$

$$(-\infty, -4) \cup (3, \infty)$$

6. Solve and express your solution in interval notation:  $2x - 3 \leq 5x + 9 < -3x + 4$

$$\left[-4, -\frac{5}{8}\right)$$

Solve the following inequalities.

7.  $x^2 + x - 20 > 0$   $(-\infty, -5) \cup (4, \infty)$

8.  $\frac{x - 2}{x + 4} \leq 3$   $(-\infty, -7] \cup (-4, \infty)$

9.  $|3x + 2| \geq 2$   $(-\infty, -\frac{4}{3}) \cup [0, \infty)$

10.  $|x^2 - x - 6| > 6$   $(-\infty, -3) \cup (0, 1) \cup (4, \infty)$