

**6-3 Solve Systems by Elimination**

Solve as indicated. **Circle your answers.**

1. Solve by the elimination method and **check your answer:**

$$\begin{array}{r} -4x - 2y = -16 \\ 4x + 8y = -8 \\ \hline \end{array}$$

$$6y = -24$$

$$y = -4$$

$$4x + 8(-4) = -8$$

$$4x - 32 = -8$$

$$4x = 24$$

$$x = 6$$

$$\boxed{(6, -4)}$$

check:

$$-4x - 2y = -16$$

$$-4(6) - 2(-4) = -16$$

$$-24 + 8 = -16$$

$$\bullet -16 = -16$$

$$4x + 8y = -8$$

$$4(6) + 8(-4) = -8$$

$$24 - 32 = -8$$

$$-8 = -8$$

(3)

2. Solve by the elimination method:

$$-3(-7x + y = -19)$$

$$-2x + 3y = -19$$

$$21x - 3y = 57$$

$$-2x + 3y = -19$$

$$19x = 38$$

$$x = 2$$

$$-2(2) + 3y = -19$$

$$-4 + 3y = -19$$

$$3y = -15$$

$$y = -5$$

$$\boxed{(2, -5)}$$

(3)

3. Solve by the elimination method:

$$5(3x + 2y = -9) \quad 15x + 10y = -45$$

$$-2(-10x + 5y = -5) \quad 20x - 10y = 10$$

$$35x = -35$$

$$x = -1$$

$$3(-1) + 2y = -9$$

$$-3 + 2y = -9$$

$$2y = -6$$

$$y = -3$$

$$\boxed{(-1, -3)}$$

(3)

4. Check your answer to #3

$$3x + 2y = -9$$

$$3(-1) + 2(-3) = -9$$

$$-3 + -6 = -9$$

$$-9 = -9 \checkmark$$

$$-10x + 5y = -5$$

$$-10(-1) + 5(-3) = -5$$

$$10 - 15 = -5$$

$$-5 = -5 \checkmark$$

(1)