

Algebra 1      6.3

Solve systems of equations by elimination

system of equations

solve

substitution method

zero pair

additive inverse

addition property of equality

whiteboards

1-4 Classify

~~5~~

6-7 Subs.

Quiz 6.1-6.2

form zero pairs

### Guided Practice

1A.  $-4x + 3y = -3$  ←  
 $4x - 5y = 5$

$$\left( 0, -1 \right)$$

$$4 \cdot 0 - 5(-1) = 5$$
$$0 + 5 = 5 \quad \checkmark$$

$$\begin{array}{r} -2y = 2 \\ \hline -2 \quad -2 \\ y = -1 \end{array}$$

$$\begin{array}{r} -4x + 3(-1) = -3 \\ -4x + -3 = -3 \\ \quad +3 \quad +3 \\ \hline -4x = 0 \\ \hline -4 \quad -4 \end{array}$$

**2.**  $8x + 5y = 38$   
 $-8x + 2y = 4$

### Guided Practice

$$\left(\frac{7}{4}, -1\right)$$

3. Solve the system of equations.  $\rightarrow$   $8b + 3c = 11$   
 $8b + 7c = 7$

$$\xrightarrow{\times -1} \begin{cases} -8b - 3c = -11 \\ 8b + 7c = 7 \end{cases}$$

$$\frac{8 \cdot \frac{7}{4}}{1} + 7 \cdot -1 = 7$$

$$\frac{5b}{4} + -7 = 7$$

$$\text{III } 14 + -7 = 7$$

$$8b + 3 \cdot -1 = 11$$

$$\begin{array}{rcl} 8b + -3 & = & 11 \\ + 3 & & + 3 \end{array}$$

$$\frac{8b}{8} = \frac{14}{8} \quad b = \frac{7}{4}$$

$$\frac{4c}{4} = \frac{-4}{4}$$

$$c = -1$$

$$(2, -1)$$

$$3 \cdot 2 + 7 \cdot (-1) = -1 \quad \checkmark$$

### Example 2 Write and Solve a System of Equations

Negative three times one number plus five times another number is  $-11$ .

Three times the first number plus seven times the other number is  $-1$ .

Find the numbers.

$$\begin{cases} -3x + 5y = -11 \\ 3x + 7y = -1 \end{cases}$$

$$\frac{12}{12}y = \frac{-12}{12}$$

$$y = -1$$

$$-3x + 5(-1) = -11$$

$$-3x + -5 = -11$$

$$\begin{array}{r} -3x + -5 = -11 \\ \quad \quad \quad +5 \quad \quad +5 \\ \hline -3x = -6 \end{array} \quad x = 2$$

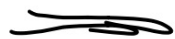
5. **CCSS REASONING** The sum of two numbers is 24. Five times the first number minus the second number is 12. What are the two numbers?

$$x + y = 24$$

$$5x - y = 12$$

## Whiteboards

2.  $8x + 5y = 38$   
 $-8x + 2y = 4$



1.  $5m - p = 7$   
 $7m - p = 11$



**8.**  $y + z = 4$

$$y - z = 8$$

**1.**  $5m - p = 7$   
 $7m - p = 11$

3  $7f + 3g = -6$   
 $7f - 2g = -31$

WB 6.3 prac. p. 78  
ord + 20

**4.**  $6a - 3b = 27$

$$2a - 3b = 11$$