

Warm-up

Write first 5 multiples of

① 3

*1 *2 *3 *4 *5
3, 6, 9, 12, 15

② 4

4, 8, 12, 16, 20

③ 9

9, 18, 27, 36, 45

7.4 Solve Systems by Multiplying

For
$$\begin{cases} 6x + 5y = 19 \\ 2x + 3y = 5 \end{cases}$$
 } Can't elim. by + or -,
 So need to multiply
 one or both to get
 LCM (common multiple)

Eliminate x

$(6, 12, 18, \dots)$
 $(2, 4, 6)$ } write
 the
 multiples

6 is the common multiple

So need $6x + -6x = 0$

$$2x \cdot -3 = -6x$$

$$\begin{array}{r} + 6x + 5y = 19 \\ -6x - 9y = -15 \\ \hline \end{array}$$

} x's eliminate

$$\begin{array}{r} -4y = 4 \\ -4y = 4 \\ \hline \end{array}$$

$$y = -1$$

← replace $y = -1$ in
 $2x + 3y = 5$

$$\begin{pmatrix} x & y \\ 4 & -1 \end{pmatrix}$$

$$\begin{array}{r} 2x + 3(-1) = 5 \\ 2x - 3 = 5 \\ 2x + 3 = 8 \\ x = 4 \end{array}$$

$$5x + 2y = 16$$

$$3x - 4y = 20$$

$$x=4 \quad y=-2$$

Homework

p454

$$\textcircled{3} \begin{aligned} x + y &= 2 \\ 2x + 7y &= 9 \end{aligned}$$

$$\textcircled{6} \begin{aligned} 10x - 9y &= 46 \\ -2x + 3y &= 10 \end{aligned}$$

} Pick
3

$$\textcircled{9} \begin{aligned} 4x - 3y &= 8 \\ 5x - 2y &= -11 \end{aligned}$$

$$\textcircled{12} \begin{aligned} 7x + 3y &= -12 \\ 2x + 5y &= 38 \end{aligned}$$

$$\textcircled{21} \begin{aligned} 3x + 2y &= 4 \\ 2y &= 8 - 5x \end{aligned}$$

$$\textcircled{24} \begin{aligned} 6x &= -2y - 2 \\ -x + y &= 3 \end{aligned}$$

} Pick
1