


Mixed Equations

Name: _____

Date: _____

 Solve the equations. Complete \bigcirc 's first, \square 's second, and \triangle 's last.

\square (1) $-45 = 3(2x - 3)$

$$\begin{array}{r} -45 = 6x - 9 \\ +9 \quad +9 \\ \hline -36 = 6x \\ \frac{-36}{6} = \frac{6x}{6} \\ -6 = x \end{array}$$

\square (2) $-3(3x - 4) = 57$

$$\begin{array}{r} -9x + 12 = 57 \\ -12 \quad -12 \\ \hline -9x = 45 \\ \frac{-9x}{-9} = \frac{45}{-9} \\ x = -5 \end{array}$$

\square (3) $17 = 7x - 2(3x - 4)$

$$\begin{array}{r} 17 = 7x - 6x + 8 \\ 17 = x + 8 \\ -8 \quad -8 \\ \hline 9 = x \end{array}$$

\bigcirc (4) $14 - 2x = 3x - 6$

$$\begin{array}{r} 14 - 2x = 3x - 6 \\ +2x \quad +2x \\ \hline 14 = 5x - 6 \\ +6 \quad +6 \\ \hline 20 = 5x \\ \frac{20}{5} = \frac{5x}{5} \\ 4 = x \end{array}$$

\bigcirc (5) $-10 + x = 8 - 2x$

$$\begin{array}{r} -10 + x = 8 - 2x \\ +2x \quad +2x \\ \hline -10 + 3x = 8 \\ +10 \quad +10 \\ \hline 3x = 18 \\ \frac{3x}{3} = \frac{18}{3} \\ x = 6 \end{array}$$

\bigcirc (6) $4 - 3x = -2x - 3$

$$\begin{array}{r} 4 - 3x = -2x - 3 \\ +3x \quad +3x \\ \hline 4 = x - 3 \\ +3 \quad +3 \\ \hline 7 = x \end{array}$$

\triangle (7) $-6 = \frac{-5x - 2}{2}$

$$\begin{array}{r} -12 = -5x - 2 \\ +2 \quad +2 \\ \hline -10 = -5x \\ \frac{-10}{-5} = \frac{-5x}{-5} \\ 2 = x \end{array}$$

\triangle (8) $\frac{4x - 2}{3} = 6$

$$\begin{array}{r} 4x - 2 = 18 \\ +2 \quad +2 \\ \hline 4x = 20 \\ \frac{4x}{4} = \frac{20}{4} \\ x = 5 \end{array}$$

\square (9) $-2x + 3(x + 4) = 4$

$$\begin{array}{r} -2x + 3x + 12 = 4 \\ x + 12 = 4 \\ -12 \quad -12 \\ \hline x = -8 \end{array}$$

\square (10) $39 = -5x - 2(-6x - 2)$

$$\begin{array}{r} 39 = -5x - 2(-6x - 2) \\ 39 = -5x + 12x + 4 \\ 39 = 7x + 4 \\ -4 \quad -4 \\ \hline 35 = 7x \\ \frac{35}{7} = \frac{7x}{7} \\ 5 = x \end{array}$$

Writing Linear Equations

Write the slope-intercept form of the equation of each line.

1) $3x - 2y = -16$

$$\begin{array}{r} -3x \quad -3x \\ \hline -2y = \frac{-3x - 16}{-2} \\ y = \frac{3}{2}x + 8 \end{array}$$

2) $13x - 11y = -12$

$$\begin{array}{r} -13x \quad -13x \\ \hline -11y = \frac{-13x - 12}{-11} \\ y = \frac{13}{11}x + \frac{12}{11} \end{array}$$

3) $9x - 7y = -7$

$$\begin{array}{r} -9x \quad -9x \\ \hline -7y = \frac{-9x - 7}{-7} \\ y = \frac{9}{7}x + 1 \end{array}$$

4) $x - 3y = 6$

$$\begin{array}{r} -x \quad -x \\ \hline -3y = \frac{-x + 6}{-3} \\ y = \frac{1}{3}x - 2 \end{array}$$

5) $6x + 5y = -15$

$$\begin{array}{r} -6x \quad -6x \\ \hline 5y = \frac{-6x - 15}{5} \\ y = -\frac{6}{5}x - 3 \end{array}$$

6) $4x - y = 1$

$$\begin{array}{r} -4x \quad -4x \\ \hline (-1) [-y = -4x + 1] \\ y = 4x - 1 \end{array}$$

7) $11x - 4y = 32$

$$\begin{array}{r} -11x \quad -11x \\ \hline -4y = \frac{-11x + 32}{-4} \\ y = \frac{11}{4}x - 8 \end{array}$$

8) $11x - 8y = -48$

$$\begin{array}{r} -11x \quad -11x \\ \hline -8y = \frac{-11x - 48}{-8} \\ y = \frac{11}{8}x + 6 \end{array}$$