Algebra 1 ECA Remediation

Name Answer Key

Homework 17.1

Solve each system by substitution.

1) $3x - 6y = 18$
$y = x - 6$

$3x - 6(x-6) = 18$
$3x - 6x + 36 = 18$
$-3x + 36 = 18$
$-36 \quad -36$
$-3x = -18$

$\frac{-3x}{-3} = \frac{-18}{3}$
$x = 6$
$y = 6 - 6$
$= 0$
$(6, 0)$

2) $-4x + 6y = 0$
$y = 7x$

$-4x + 6(7x) = 0$
$-4x + 42x = 0$
$\frac{38x}{38} = \frac{0}{38}$
$x = 0$

$y = 7(0)$
$y = 0$
$(0, 0)$

3) $3x + 6y = -9$
$y = x$

$3x + 6(x) = -9$
$\frac{9x}{9} = \frac{-9}{9}$
$x = -1$

$y = x$
$y = -1$
$(-1, -1)$

4) $2x + 2y = 14$
$y = 3x + 7$

$2x + 2(3x+7) = 14$
$2x + 6x + 14 = 14$
$8x + 14 = 14$
$-14 \quad -14$
$\frac{8x}{8} = \frac{0}{8}$
$x = 0$

$2(0) + 2y = 14$
$\frac{2y}{2} = \frac{14}{2}$
$y = 7$
$(0, 7)$

5) $7x - 2y = 2$
$y = 3x$

$7x - 2(3x) = 2$
$7x - 6x = 2$
$x = 2$

$y = 3(2)$
$y = 6$
$(2, 6)$

6) $y = 3x + 2$
$2x + 5y = 10$

$2x + 5(3x+2) = 10$
$2x + 15x + 10 = 10$
$17x + 10 = 10$
$-10 \quad -10$
$\frac{17x}{17} = \frac{0}{17}$
$x = 0$

$y = 3(0) + 2$
$y = 2$
$(0, 2)$

Write the slope-intercept form of the equation of the line through the given points.

7) through: $(3, 1)$ and $(5, -1)$

$m = \frac{1 + +1}{3 - 5} = \frac{2}{-2} = -1$

$y - 1 = -1(x - 3)$
$y - 1 = -x + 3$
$+1 \quad +1$
$y = -x + 4$

8) through: $(-2, 1)$ and $(5, -3)$

$m = \frac{1 + +3}{-2 - 5} = \frac{4}{-7}$

$7(y - 1) = \frac{-4}{7}(x + 2)(7)$
$7y - 7 = -4x - 8$
$+7 \quad +7$
$7y = -4x - 1$

$\frac{7y}{7} = \frac{-4x}{7} - \frac{1}{7}$
$y = \frac{-4}{7}x - \frac{1}{7}$

Answers to Homework 17.1

1) $(6, 0)$
2) $(0, 0)$
3) $(-1, -1)$
4) $(0, 7)$
5) $(2, 6)$
6) $(0, 2)$
7) $y = -x + 4$
8) $y = -\frac{4}{7}x - \frac{1}{7}$