Algebra 1 ECA Remediation Name Answer Key

# Homework 17.3



**Solve each system by substitution.**

1) $y = \boxed{x}$
$-x + 3\boxed{y} = -14$

$-x + 3(x) = -14$
$-x + 3x = -14$
$\frac{2x}{2} = \frac{-14}{2}$
$x = -7$

$y = x$
$y = -7$
$\boxed{(-7, -7)}$

2) $y = \boxed{-3x - 6}$
$8x + 4\boxed{y} = -12$

$8x + 4(-3x - 6) = -12$
$8x - 12x - 24 = -12$
$-4x - 24 = -12$
$+24 \quad +24$
$\frac{-4x}{-4} = \frac{12}{-4}$
$x = -3$

$y = -3(-3) - 6$
$y = 9 - 6$
$y = 3$
$\boxed{(-3, 3)}$

3) $-2x + 2\boxed{y} = 0$
$y = \boxed{-6x}$

$-2x + 2(-6x) = 0$
$-2x - 12x = 0$
$\frac{-14x}{-14} = \frac{0}{-14}$
$x = 0$

$-2(0) + 2y = 0$
$\frac{2y}{2} = \frac{0}{2}$
$y = 0$
$\boxed{(0, 0)}$

4) $8x - 2\boxed{y} = 20$
$y = \boxed{-8x + 2}$

$8x - 2(-8x + 2) = 20$
$8x + 16x - 4 = 20$
$24x - 4 = 20$
$+4 \quad +4$
$\frac{24x}{24} = \frac{24}{24}$

$x = 1$
$y = -8(1) + 2$
$y = -8 + 2 = -6$
$\boxed{(1, -6)}$

5) $7x - 4\boxed{y} = 14$
$y = \boxed{-7x - 21}$

$7x - 4(-7x - 21) = 14$
$7x + 28x + 84 = 14$
$35x + 84 = 14$
$-84 \quad -84$
$\frac{35x}{35} = \frac{-70}{35}$
$x = -2$

$y = -7(-2) - 21$
$y = 14 - 21$
$y = -7$
$\boxed{(-2, -7)}$

6) $-2x - \boxed{y} = 0$
$y = \boxed{3x}$

$-2x - (3x) = 0$
$-2x - 3x = 0$
$-5x = 0$
$x = 0$

$y = 3x$
$y = 3(0)$
$y = 0$
$\boxed{(0, 0)}$

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

7) through: (0, 1) and (–4, 0)

$m = \frac{1 - 0}{0 + 4} = \frac{1}{4}$

$y - 1 = \frac{1}{4}(x - 0)$

$y - 1 = \frac{1}{4}x$
$+1 \quad +1$

$y = \frac{1}{4}x + 1$

8) through: (4, 1) and (0, –1)

$m = \frac{1 + 1}{4 - 0} = \frac{2}{4} = \frac{1}{2}$

$y - 1 = \frac{1}{2}(x - 4)$

$y - 1 = \frac{1}{2}x - 2$
$+1 \quad +1$

$y = \frac{1}{2}x - 1$

# Answers to Homework 17.3

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