Solve each system of equations using substitution. Give answers as ordered pairs.

1.

$y = -\frac{4}{3}x + 7$

$8x + 6y = 42$

2.

$7a - 3b = 22$

$8a + b = 34$

Solve this system of equations using Elimination. Give answers as ordered pairs.

3.

$4m - 3n = -23$

$6m + 3n = 3$

4.

$-4c + 5d = 30$

$-4c + 7d = 42$

5. You have a pile of 59 coins. In the pile there is only nickels and pennies. When you total up the coins you have $1.27. Write and solve a system of equations to find out how many pennies and nickels you have.

Algebra 1 Bellwork Thursday, February 11, 2016 Answers

Solve each system of equations using substitution. Give answers as ordered pairs.

1.

$y = -\frac{4}{3}x + 7$

$8x + 6y = 42$

Many Solutions

$8x + 6(-\frac{4}{3}x + 7) = 42$

$8x - 8x + 42 = 42$

$42 = 42$

2.

$7a - 3b = 22$

$8a + b = 34 \rightarrow b = 34 - 8a$

(4, 2)

$7a - 3(34 - 8a) = 22$

$7a - 102 + 24a = 22$

$31a - 102 = 22$

$+102 \quad +102$

$\frac{31a}{31} = \frac{124}{31}$

$a = 4$

$b = 34 - 8(4)$

$= 34 - 32 = 2$

Solve this system of equations using Elimination. Give answers as ordered pairs.

3.

$4m - 3n = -23$

$+ \quad 6m + 3n = 3$

(-2, 5)

$10m = -20$

$m = -2$

$6(-2) + 3n = 3$

$-12 + 3n = 3$

$+12 \quad +12$

$3n = 15$

$n = 5$

4.

$-4c + 5d = 30$

$- \quad -4c + 7d = 42$

(0, 6)

$-2d = -12$

$d = 6$

$-4c + 5(6) = 30$

$-4c + 30 = 30$

$-4c = 0$

$c = 0$

5. You have a pile of 59 coins. In the pile there is only nickels and pennies. When you total up the coins you have $1.27. Write and solve a system of equations to find out how many pennies and nickels you have.

n = #nickels

p = #pennies

$.05(n + p = 59) \rightarrow .05n + .05p = 2.95$

$.05n + .01p = 1.27 \rightarrow -.05n + .01p = 1.27$

$.04p = 1.68$

$p = 42$

$n + 42 = 59$

$n = 17$

42 pennies

17 nickels