Algebra 1 Bellwork Thursday, January 8, 2015

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

1.

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

$8x + 6y = 42$

2.

$7a - 3b = 22$

$8a + b = 34$

3. Solve this system of equations by first adding the two equations together.

$4m - 3n = -23$

$6m + 3n = 3$

4. Solve this system of equations by first subtracting the two equations.

$5c - 4d = 30$

$7c - 4d = 42$

5. Solve this system of equations by multiplying the first equation by 2 then adding the equations.

$-5x + 6y = 16$

$10x + 11y = -9$

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

1.

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

$8x + 6y = 42$

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

$8x - 8x + 42 = 42$

$42 = 42$

MANY SOLUTIONS

2.

$7a - 3b = 22$

$8a + b = 34$

$-8a \quad -8a$

$b = 34 - 8a$

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

$7a - 102 + 24a = 22$

$31a - 102 = 22$

$+102 \quad +102$

$31a = 124$

$a = 4$

$b = 34 - 8(4) = 34 - 32 = 2$

(4, 2)

3. Solve this system of equations by first adding the two equations together.

$4m - 3n = -23$

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

$10m = -20$

$\frac{10m}{10} = \frac{-20}{10}$

$m = -2$

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

$-12 + 3n = 3$

$+12 \quad +12$

$\frac{3n}{3} = \frac{15}{3}$

$n = 5$

(-2, 5)

4. Solve this system of equations by first subtracting the two equations.

$5c - 4d = 30$

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

$-2c = -12$

$\frac{-2c}{-2} = \frac{-12}{-2}$

$c = 6$

$5(6) - 4d = 30$

$30 \quad -4d = 30$

$-30 \quad -30$

$-4d = 0$

$\frac{-4d}{-4} = \frac{0}{-4}$

$d = 0$

(6, 0)

5. Solve this system of equations by multiplying the first equation by 2 then adding the equations.

$2(-5x + 6y = 16)$

$10x + 11y = -9$

$-10x + 12y = 32$

$10x + 11y = -9$

$23y = 23$

$\frac{23y}{23} = \frac{23}{23}$

$y = 1$

$10x + 11(1) = -9$

$10x + 11 = -9$

$-11 \quad -11$

$\frac{10x}{10} = \frac{-20}{10}$

$x = -2$

(-2, 1)