Algebra 2 Bellwork Wednesday, November 4, 2015

Solve each system of equations using Substitution, Elimination, or Matrices. You must use each method at least once.

1.

$y = 4.31x - 4$

$5.2x - 0.5y = 20.27$

2.

$2.5a + 8b = 24$

$15a + 48b = 24$

3.

$y = 3x + 7$

$5x + 3y = 7$

4. In your pocket you have some pennies and nickels. You have a total of $0.68 amongst the 24 coins. Write and solve a system of equations to find the amount of each kind of coin that is in your pocket.

Equations:

pennies =

nickels =

Algebra 2 Bellwork Wednesday, November 4, 2015 ANSWERS

Solve each system of equations using Substitution, Elimination, or Matrices. You must use each method at least once.

1. MATRICES (6, 21.86)

$y = 4.31x - 4 \rightarrow -4.31x + y = -4$

$5.2x - 0.5y = 20.27$

$A \begin{bmatrix} -4.31 & 1 \\ 5.2 & -.5 \end{bmatrix} \quad B \begin{bmatrix} -4 \\ 20.27 \end{bmatrix}$

2. ELIMINATION

$6(2.5a + 8b = 24) \rightarrow 15a + 48b = 144$

$15a + 48b = 24$ $-$ $15a + 48b = 24$

$0 + 0 = 120$

NO SOLUTION

3. SUBSTITUTION

$y = 3x + 7$

$5x + 3y = 7$

(−1, 4)

$5x + 3(3x + 7) = 7$

$5x + 9x + 21 = 7$

$14x + 21 = 7$

$14x = -14$

$x = -1 \Rightarrow y = 3(-1) + 7$

$y = -3 + 7$

$y = 4$

4. In your pocket you have some pennies and nickels. You have a total of $0.68 amongst the 24 coins. Write and solve a system of equations to find the amount of each kind of coin that is in your pocket.

P = # pennies N = # NICKELS

Equations:

$.01P + .05N = 0.68$

$P + N = 24$

$A \begin{bmatrix} .01 & .05 \\ 1 & 1 \end{bmatrix} \quad B \begin{bmatrix} 0.68 \\ 24 \end{bmatrix}$

pennies = 13

nickels = 11