Algebra 2 Review Quiz #2 Sec 3-1, 3-2, 4-7 Fall 2014

1. Graph by hand to find the solution to this system of linear equations.

a)
$y = -\frac{1}{2}x + 2$
$6x - 12y = 48$

b)
$y = -2x$
$6x - 3y = 12$

2. Solve each system of equations using substitution.

a) $y = 2x - 9$
$y = 4x + 13$

b) $y = 3x - 1$
$2x + 5y = -22$

c) $y = 5x + 3$
$20x - 4y = -12$

3. Solve each system of equations using elimination.

a) $3x + 4y = 30$
$7x + 2y = 26$

b) $2x - 6y = 20$
$5x + 4y = -7$

c) $6x + 4y = 18$
$9x + 6y = 27$

4. Solve each system of equations by using matrices on the graphing calculator. Write the two matrices and give your answer as an ordered pair.

a.
$4.25x + 6y = 38$
$-8x + 7.5y = 154$

b
$2x = 12$
$9x - y = 51$

5. State the number of solutions to each system of equations without graphing.

a)
$y = 3x - 9$
$y = -3x + 2$

b)
$y = 2x + 7$
$6x - 3y = 12$

c)
$y = -6x + 5$
$12x + 2y = 10$

d)
$y = 5$
$10x - 2y = 32$

6. The athletic director went to the sporting goods store and bought eight basketballs and seven footballs for $504. At the same time the youth director at the local YMCA bought five basketballs and three footballs for $271. Write and solve a system of equations to find the cost of a basketball and the cost of a football.

7. Two angles are supplementary. One of the angles is twelve less than twice the other angle. Write and solve a system of equations to find the measure of each angle.

8. You used 57 toothpicks to make squares and triangles. A total of 16 of these shapes were made. Write and solve a system of equations to find the number of squares and triangles that were made.

Algebra 2 Review Quiz #2 Sec 3-1, 3-2, 4-7 ANSWERS Fall 2014

1. a) $(6,-1)$ b) $(1,-2)$

2. a) $(-11,-31)$ b) $(-1,-4)$ c) Many Solutions

3. a) $(2,6)$ b) $(1,-3)$ c) No Solution

4.

a) $A\begin{bmatrix} 4.25 & 6 \\ -8 & 7.5 \end{bmatrix}$ $B\begin{bmatrix} 38 \\ 154 \end{bmatrix}$ SOL: $(-8,12)$

b) $A\begin{bmatrix} 2 & 0 \\ 9 & -1 \end{bmatrix}$ $B\begin{bmatrix} 12 \\ 51 \end{bmatrix}$ SOL: $(6,3)$

5. a) One b) None c) Many d) One

6. $8B+7F=504$ and $5B+3F=271$
Footballs are \$32 each and basketballs are \$35 each.

7. $x+y=180$ and $y=2x-12$ The angles are $64°$ and $116°$

8. $S+T=16$ and $4S+3T=57$ There were nine squares and seven triangles.