Hon Alg 2 Review Quiz #2 Sec 3-1, 3-2, 3-6, 4-7 Fall 2016

1. Solve each system of equations using substitution. Give the solution as an ordered pair.

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

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

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

2. Solve each system of equations using elimination. Give the solution as an ordered pair.

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

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

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

3. Solve each system of equations by using matrices on the graphing calculator. On the test you'll be asked to write the two matrices and give your answer as an ordered pair.

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

b
$27x - 43y = 2249$
$13x + 97y = -3743$

c.
$4x - 9y - z = 53$
$6x + 8y + 7z = 10$
$14x - 13y = 99$

4. State the number of solutions to each system of equations without actually solving the system.

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

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

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

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

5. 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.

6. 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.

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

8. Billy's Restaurant ordered 200 flowers for Mother's Day. They ordered carnations at $1.50 each, roses at $5.75 each, and daisies at $2.60 each. They ordered mostly carnations, and 20 fewer roses than daisies. The total order came to $589.50. Write and solve a system of equations to find out how many of each type of flower was ordered.

Solve each system of equations using any method you wish. State what method you used and then give the solution as an ordered pair. On the quiz you will be asked to solve systems using each method at least once.

9.
$a + b = 2$
$4a - 3b = -34$

10.
$h = 4.6g - 14.5$
$2g - 5h = 20$

11.
$12x + 7y = -115$
$3x - 4y = -23$

12.
$2.3x + 3.1y = 60.1$
$1.5x - 0.8y = 13.8$

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

2. a) $(2,6)$ b) $(1,-3)$ c) Many Solutins

3. a) $(-8,12)$ b) $(18,-41)$ c) $(1.5,-6,7)$

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

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

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

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

8. $1.5C+2.6D+5.75R=589.50$ 80 carnations, 70 daisies, 50 roses
   $C+D+R=200$
   $R=D-20$ rewritten as: $-D+R=20$

For 9 to 12, method of solving is a personal choice. Only solutions are given.

9. $(-4,6)$ 10. $(2.5,-3)$ 11. $(-9,-1)$ 12. $(14,9)$