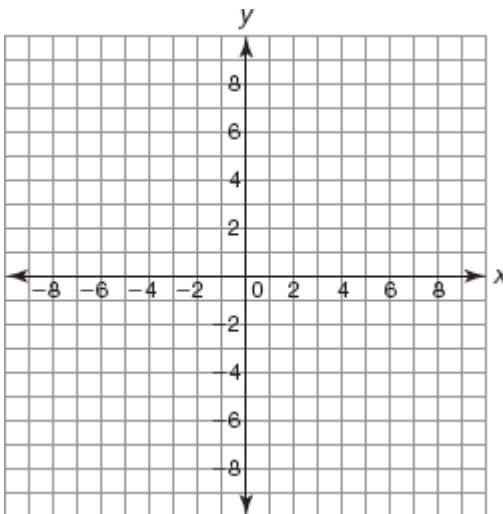


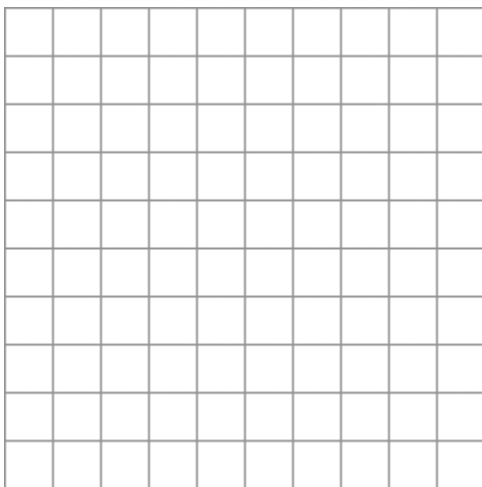
## Integrated Math 1 Unit 6 Review

1. Graph the system of equations. Determine the solution.

$$\begin{cases} y = \frac{2}{3}x + 1 \\ x + 3y = 6 \end{cases}$$



2. Eric is trying to figure out which local farmer to purchase vegetable from. The first farmer offers each box of vegetables for \$4, but charges a \$180 start up fee. The second farmer offers each box of vegetables for \$20, but there is no start up fee. Write a system of linear equations that represents this situation. Graph the equations on graph paper and determine the number of boxes so that the cost will be the same amount. Explain how you would recommend to someone which farmer to use based on cost.



3. Determine the solution to each system of equations.

a. 
$$\begin{cases} -3x - y = -4 \\ -5x + y = -12 \end{cases}$$

b. 
$$\begin{cases} y = 5x - 4 \\ -2x + y = -1 \end{cases}$$

c. 
$$\begin{cases} \frac{1}{2}x + \frac{3}{2}y = 4 \\ -\frac{1}{3}y - 7 = -\frac{2}{3}x \end{cases}$$

4. One pizza shop sells large pizzas for a flat fee of \$10 plus \$2 for each topping. Another pizza shop sells large pizzas for a flat fee of \$12 plus \$1 for each topping. After how many toppings will the cost at both pizza shops be the same?

5. Determine the number of solutions for each system of equations.

a. 
$$\begin{cases} 2x + 3y = 8 \\ 6y = -4x + 16 \\ 12x + 18y = 24 \\ -4x - 6y = 2 \end{cases}$$

b.

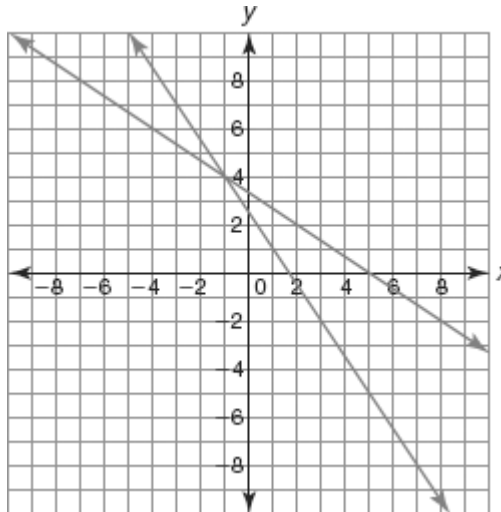
6. A) When is it best to use graphing to solve a system of equations?

B) When is it best to use substitution to solve a system of equations?

C) When is it best to use linear combinations (elimination) to solve a system of equations?

**Integrated Math 1 Unit 6 Review**  
**Answer Section**

1. ANS:



$(-1, 4)$

PTS: 1

REF: 6.1

NAT: A.REI.5 | A.REI.6 | A.REI.10 | A.REI.11 | A.CED.2

TOP: End Ch Test

KEY: system of linear equations | break-even point | substitution method | consistent systems | inconsistent systems

2. ANS:

$$\begin{cases} y = 35x + 115 \\ y = 60x + 15 \end{cases}$$

The graphs intersect at  $x = 4$ , so at 4 sessions, Keith and Adam will cost the same amount.

PTS: 1

REF: 6.3

NAT: A.REI.5 | A.REI.6 | A.REI.10 | A.REI.11 | A.CED.2

TOP: End Ch Test

3. ANS:

a.

$$y = 3x + 10$$

$$2x - 7(3x + 10) = 6$$

$$2x - 21x - 70 = 6$$

$$-19x = 76$$

$$x = -4$$

$$y = 3(-4) + 10 = -2$$

$$(-4, -2)$$

**b.**  $y = 3x - 20$   
 $x - (3x - 20) = 2$   
 $x - 3x + 20 = 2$   
 $-2x = -18$   
 $x = 9$   
 $y = 3(9) - 20 = 7$   
 $(9, 7)$

PTS: 1 REF: 6.1 NAT: A.REI.5 | A.REI.6 | A.REI.10 | A.REI.11 | A.CED.2

TOP: End Ch Test

KEY: system of linear equations | break-even point | substitution method | consistent systems | inconsistent systems

**4.** ANS:

$$\begin{cases} y = 60 + 20x \\ y = 15 + 35x \end{cases} \quad \begin{aligned} 60 + 20x &= 15 + 35x \\ 45 &= 15x \\ 3 &= x \end{aligned}$$

After 3 cooking classes, the cost at both companies will be the same.

PTS: 1 REF: 6.4 NAT: A.REI.5 | A.REI.6 | A.REI.10 | A.REI.11 | A.CED.2

TOP: End Ch Test

**5.** ANS:

- a.** 0 solutions
- b.** infinitely many solutions
- c.** 1 solution

PTS: 1 REF: 6.1 NAT: A.REI.5 | A.REI.6 | A.REI.10 | A.REI.11 | A.CED.2

TOP: Pre Test

KEY: system of linear equations | break-even point | substitution method | consistent systems | inconsistent systems

**6.** ANS:

Graphing is a good method when the numbers are easy to graph. Substitution is a good method when one variable can be easily isolated. Linear combinations is a good method when the numbers are not easy to graph and one variable cannot be easily isolated.

PTS: 1 REF: 6.3 NAT: A.REI.5 | A.REI.6 | A.REI.10 | A.REI.11 | A.CED.2

TOP: End Ch Test