Name: _____

6.3.D1 – SOLVING MORE SYSTEMS

Past due on: _____ Period: _____

Define variables and write a system of equations to represent each situation. Solve each system of equations using the appropriate method: either substitution or linear combinations. Write your solution as an ordered pair (x, y). *Refer to the 6.3 example "Writing a Linear System of Equations to Represent a Problem Context" in the Chapter 6 Summary.*

1. Raj is trying to decide which ice cream shop is the better buy. Cold & Creamy Sundaes charges $2.50 per sundae plus an additional $0.25 for each topping. Scoops Sundaes charges $1.50 per sundae plus an additional $0.50 for each topping. Determine the number of toppings for which both vendors charge the same amount.

   Let x = _____ *& y =* _____

   Equation 1: _____ *& Equation 2:* _____

   Solve the system of equations:

   Interpret the solution of the linear system in terms of the problem situation. Explain which vendor is the better buy depending on the number of toppings Raj chooses.

Solve each system of equations using the linear combinations method. Write your solution as an ordered pair (x, y). *Refer to the 6.2 example "Solving a System of Equations Using the Linear Combinations Method" in the Chapter 6 Summary.*

2. $x + 2y = 3$
   $x - y = 6$

3. $2x - y = 4$
   $3x - y = 2$

4. $-4x - 3y = 5$
   $3x - 2y = -8$

5. $x - 3y = 1$
   $2x + 2y = 10$

Solve each system of equations by substitution. Write your solution as an ordered pair (x, y). *Refer to the 6.1 example "Solving Systems of Linear Equations Using the Substitution Method" in the Chapter 6 Summary.*
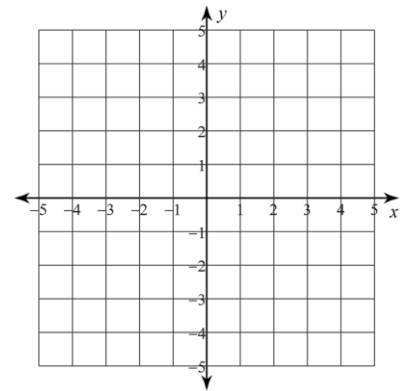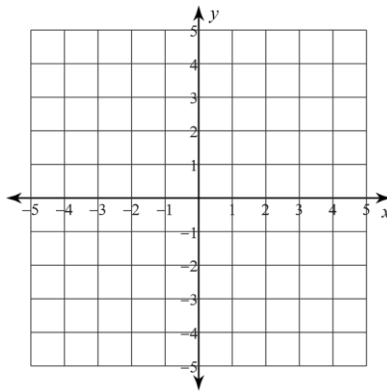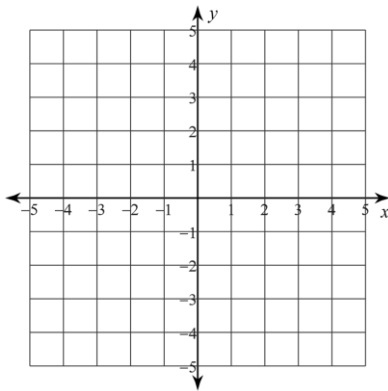
6. $5y = 7x + 22$
    $x = -6y + 17$

7. $x = -5y - 14$
    $2x - 3y = 24$

Solve the system of linear equations graphically. Write your solution as an ordered pair (x, y). *Refer to the 6.1 example "Predicting the Solution of a System Using Graphing" in the Chapter 6 Summary.*

8. $x + 3y = -9$
    $6y = -2x + 18$

9. $y = x - 2$
    $y = -3x + 2$

10. $y = 7x - 3$
    $4y = 4x + 12$

1ST QUARTER REVIEW: FROM CHAPTER 2

Solve each compound inequality <u>and</u> graph its solution set. *Refer to the 2.4 example "Solving Compound Inequalities" in the Chapter 2 Summary.*

11. $-8n + 6 \geq 46$ or $8n - 2 \geq -2$

12. $15 < 3 - 6m \leq 39$