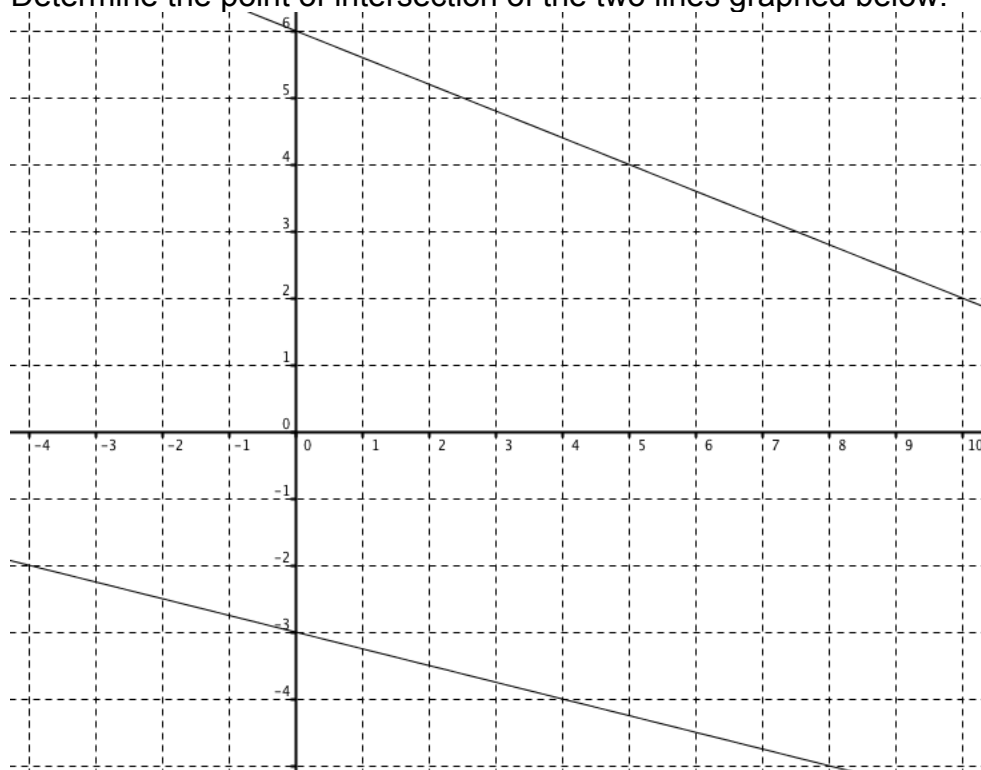


## MPM2D – Unit 6 - Review Worksheet #1

1. Verify that  $\left(\frac{7}{2}, \frac{4}{3}\right)$  is the solution to the linear system:  
 $6x - 12y = 5$   
 $10x - 6y - 27 = 0$
2. Determine the point of intersection of the lines  $y = \frac{3}{4}x - 8$  and  $3x + 2y = -6$ .  
Check your answer.
3. Determine the point of intersection of the two lines graphed below.



4. Clearly explain and correct the errors in each of the following solutions.
  - a. Asked for the point of intersection of the two lines:  $7x + 3y = 17$  (1)  
 $x - 3y = 23$  (2)

A student wrote the following solution.

$$(1) - (2): 6x = -6$$

$$x = -1$$

$$\text{Sub } x = -1 \text{ into (1): } 7(-1) + 3y = 17$$

$$-7 + 3y = 17$$

$$3y = 17 + 7$$

$$3y = 24$$

$$y = 8$$

Therefore the point of intersection of these two lines is  $(-1, 8)$ .

- b. Given the problem → One type of granola has 30% raisins and a second type has 15% raisins. What mass of each type should be mixed together to make 600 grams of granola with 21% raisins?

A student wrote the following solution →

$$x + y = 600 \quad (1)$$

$$0.30x + 0.15y = 0.21 \quad (2)$$

$$\text{From 1: } x = 600 - y \quad (3)$$

Sub (3) into (2)

$$0.30(600 - y) + 0.15y = 0.21$$

$$180 - 0.30y + 0.15y = 0.21$$

$$0.3y - 0.15y = 180 - 0.21$$

$$0.15y = 179.79$$

$$y = 1198.6$$

Therefore they should mix 1200 g of the 15% granola with -600 g of the 30% granola.

5. A banquet hall has received meal orders in advance for a wedding reception with 86 guests. They are charging \$13 for the chicken meal and \$18 for the beef meal. If the total bill is \$1438, how many of each meal was ordered?
6. For a school fundraiser, a student council sells large salads for \$5 and pizza slices for \$2 each. They sell a total of 103 items with total revenue of \$260. How many of each item were sold?
7. Mrs. Jones is a “whiz” at wrapping presents. She can wrap a present using wrapping paper in 3 minutes. She can wrap a present using a gift bag in 2 minutes. If she wraps 40 presents in 108 minutes, how many presents does she wrap using each technique?
8. For her nephew’s birthday party, Miss Turck wants to make a big bowl of Reese Pieces and pretzel M&M’s. The Reese Pieces are \$1.15/g and the pretzel M&M’s are \$2.40/g. If she wants to make a 600 kg mixture that will cost \$2.00/g, how many kilograms of each type of candy can she use?

### **Answers**

1. See solutions    2.  $\left(\frac{20}{9}, -\frac{19}{3}\right)$     3. (60, -18)    4. See solutions
5. 22 chicken meals and 64 beef meals.
6. 18 salads and 85 pizza slices
7. 28 gifts in wrapping paper and 12 in gift bags.
8. 192 g of Reese Pieces and 405 g of Pretzel M&M’s.