Systems Pre-Assessment (NOT GRADED)

Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. a. You buy 10 hot dogs and 2 hamburgers for $40. Your friend buys 2 hot dogs and 2 hamburgers for $16. Write a system of equations to represent this situation. Define your variables.

b. Graph both equations on the graph below.

[](https://www.wolframcloud.com/objects/355b71bb-6006-4082-a749-e4cd22f9e053?f=%7B%7D&&xmin=-2&&xmax=20&&xstep=2&&ymin=-2&&ymax=20&&ystep=2&&pointList=%7B%7D&&showYAxis=True&&showPlotLegends=Expressions&&showAxesArrows=Yes&&changePointsToCrosses=No&&xGridLines=Table%5Bi%2C%7Bi%2C-2%2C20%2C2%7D%5D&&yGridLines=Table%5Bi%2C%7Bi%2C-2%2C20%2C2%7D%5D&&inequalities=%7B%7D)

c. Where do the two lines intersect?

d. What would be the cost of 3 hot dogs and 5 hamburgers?

2a. I start with 20 pieces of swag and lose 3 pieces every day. My brother starts with 0 pieces and gains 2 every day. Write a system of equations to represent this situation. Define your variables.

b. Graph both equations on the graph below.

[](https://www.wolframcloud.com/objects/355b71bb-6006-4082-a749-e4cd22f9e053?f=%7B%7D&&xmin=-2&&xmax=20&&xstep=2&&ymin=-2&&ymax=20&&ystep=2&&pointList=%7B%7D&&showYAxis=True&&showPlotLegends=Expressions&&showAxesArrows=Yes&&changePointsToCrosses=No&&xGridLines=Table%5Bi%2C%7Bi%2C-2%2C20%2C2%7D%5D&&yGridLines=Table%5Bi%2C%7Bi%2C-2%2C20%2C2%7D%5D&&inequalities=%7B%7D)

c. Where do the two lines intersect?

d. When will my brother have *twice* as much swag as me?

Solve each system of equations for X AND Y. Use any method.

1. y = 6x - 13

 y = -12x + 23

 4. y = 17 - 3x

 y = -2x + 11

 5. 4x + 3y = 3

 5y - 4x = 37

 6. 3x + 5y = 1

 4x + 7y = 0

7. You’re going to a basketball game with a student discount. If 6 students and 4 adults go, it will cost $216. If 5 students and 8 adults go, it will cost $306.

* Find the cost of a student ticket.
* Find the cost of an adult ticket.
* If 8 students and 3 adults go, how much will it cost?

Remember to define your variables and to verify your solution.