30S Applied Math Name_____

Introduction to Graphing & Linear Functions Hand-in Assignment 3
Lessons 5 and 6 (May 2020)

1. Determining Intercepts using the Graphing Calculator.

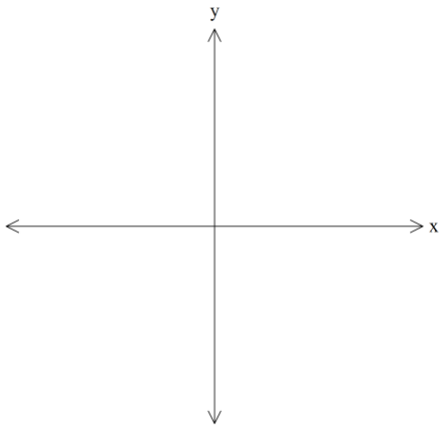
a) Find the x and y intercepts for:

$y = 5x + 3.87$

b) Find the x and y intercepts for:

$y = 3.5x + 6.5$

1. Draw the graph of $y = 3.5x - 10$. **Label the x and *y* intercepts.**

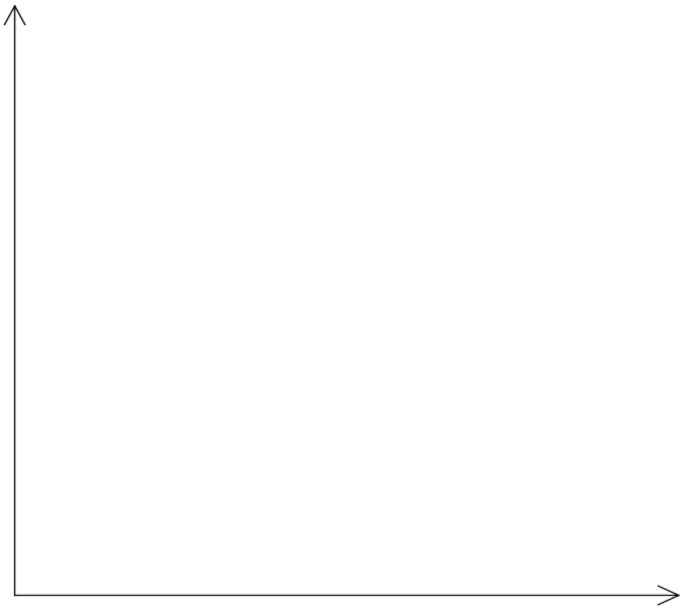


2. June is making finger-rings for a craft fair. It costs her $3.50 to make each finger-ring, and she needs to pay $50 to rent a table at the craft fair. This situation is modelled by the following equation:

$$\boldsymbol{C = 3.5n + 50}$$

where $\boldsymbol{n}$ represents the number of finger-rings made and $\boldsymbol{C}$ represents the total cost.

a) Sketch a graph of this function. Remember to include labels on your axes and appropriate scales.



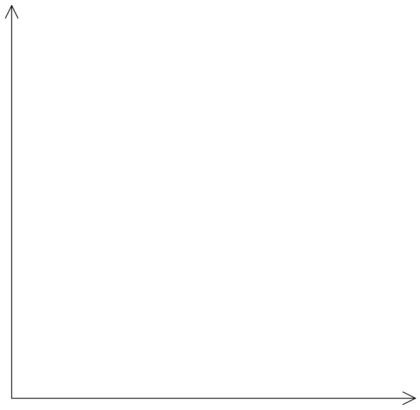
b) Find June's total cost if she plans to make 200 finger-rings.
Note: You can substitute the value for $\boldsymbol{n}$ (200) into the equation and solve algebraically or you can use the same technique you learned in Lesson 5 for finding the $\boldsymbol{y}$ intercept of a function.

3. The cost of sandwiches purchased depends on the number ordered. The table below shows the cost of purchasing sandwiches from a food truck.

Number of sandwiches ordered	1	2	3	5	8
Cost $	4.50	9.00	13.50	22.50	36.00

a) Determine the linear equation that models this situation.

b) Sketch the graph of this situation



b) How much will it cost if 30 sandwiches are ordered?

c) How many sandwiches could you buy with $100.00?

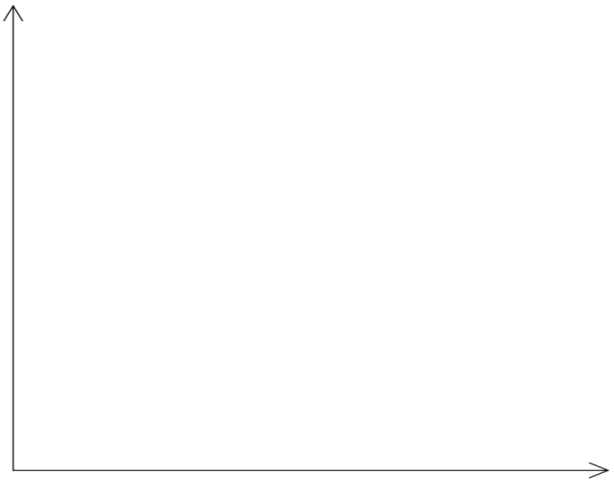
Bonus Question

4. There is **10 cm of snow** on the ground. It is melting at a rate of **0.75 cm per hour**. Complete the table shown below.

Time (hours)	0	1	2	3	4	5	6
Amount of Snow (cm)	10	9.25					

a) Graph the scatterplot of the data.

Window of Calculator



b) Is the relation linear? Explain. If so, sketch the linear regression equation on the grid above, and write the regression equation below.

c) How will it take for the snow to melt completely?

d) When will the snow melt to a depth of 3.75 cm?

e) What are we assuming regarding our answers to parts (c) and (d)?