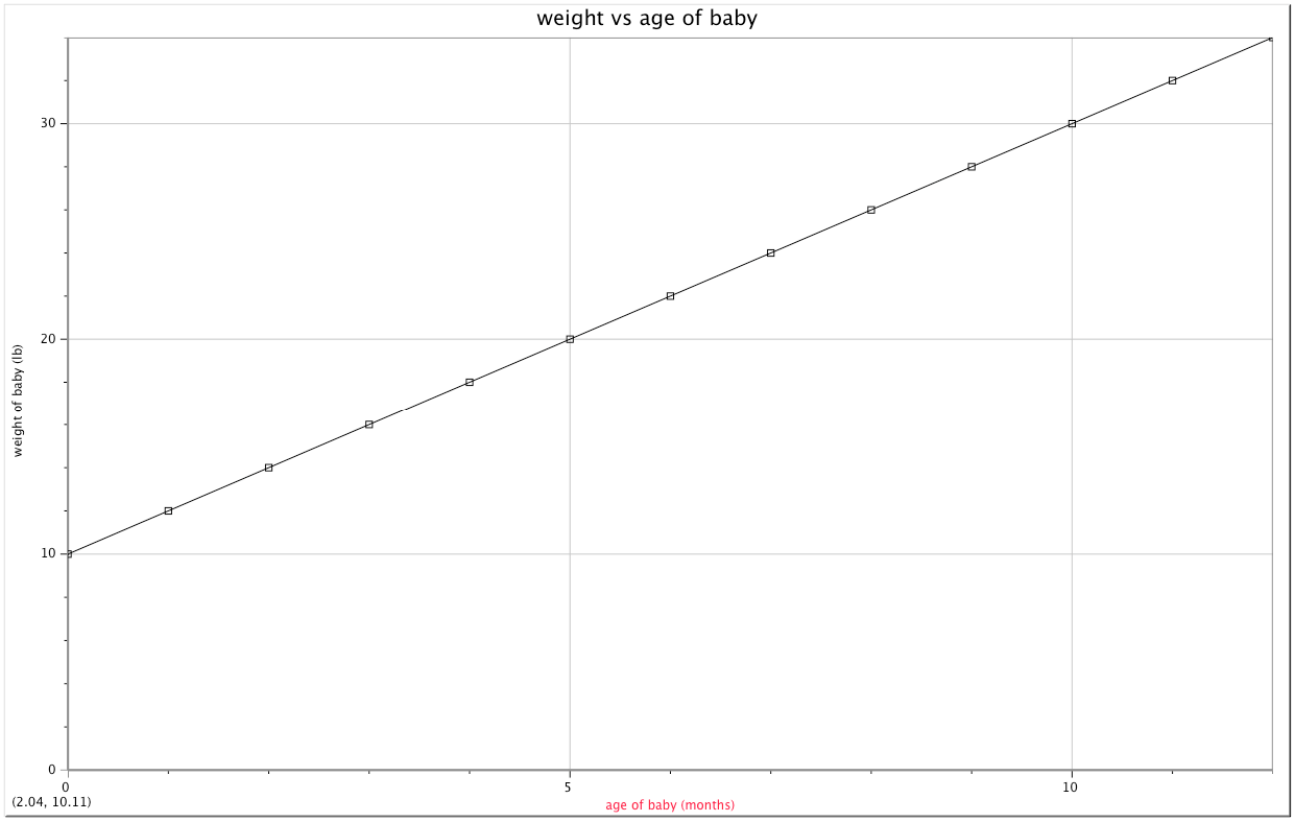
Name_____

Date_____ Pd____

UNIT 1 CP WORKSHEET 3 - Equations of Lines

Determine the slope and the y-intercept of the graphs below and then write the equation for the line in the form **y = mx + b**. Include the appropriate units and choose variables to represent what is on the x- and y-axis. Please show your work for your slope calculation below the graph.

Example:



$$\text{slope} = \frac{y_2 - y_1}{x_2 - x_1}$$

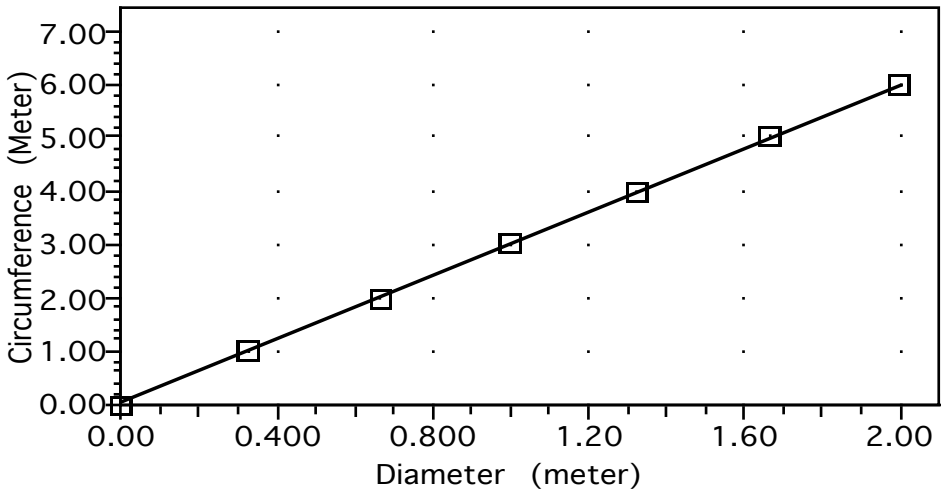
To calculate slope, choose any two points on the graph and use the formula at the right.

Using the points (0 mon, 10 lb) and (5 mon, 20 lb):

$$\textbf{slope} = \frac{(20 \text{ lb} - 10 \text{ lb})}{(5 \text{ mon} - 0 \text{ mon})} = \frac{10 \text{ lb}}{5 \text{ mon}} = \textbf{2 lb/mon}$$

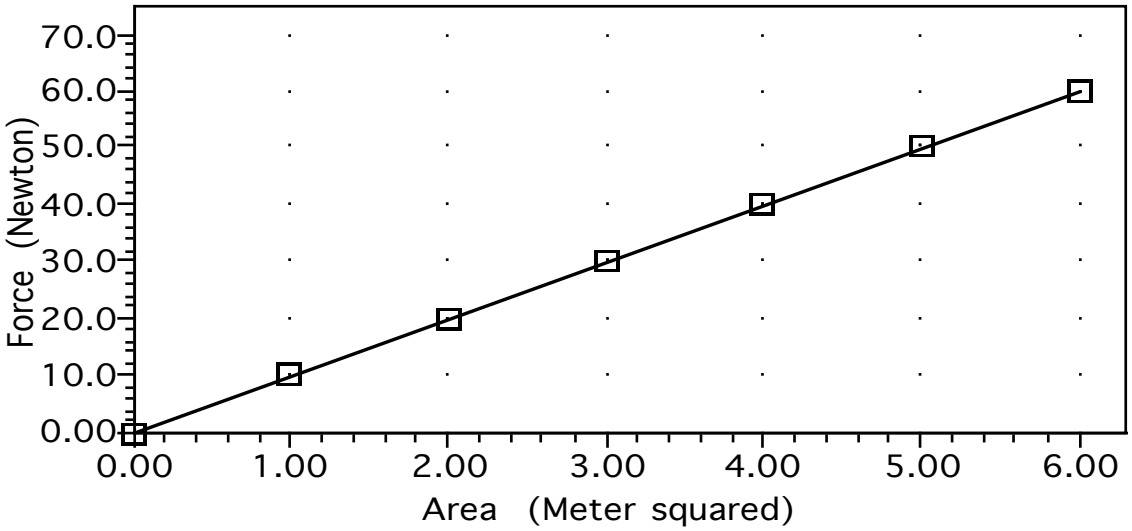
The y-intercept is the value of y when x = 0 or where the line intersects the y-axis. In this case the **y-intercept = 10 lb.**

Let's use "W" for weight and "A" for age. Since y = mx + b, where "m" is the slope and "b" is the y-intercept, the equation for this line is **W = (2 lb/mon) A + 10 lb.**



Graph #1

Slope:_____ Y-intercept:_____ Equation: _____



Graph #2

Slope:_____ Y-intercept:_____ Equation: _____

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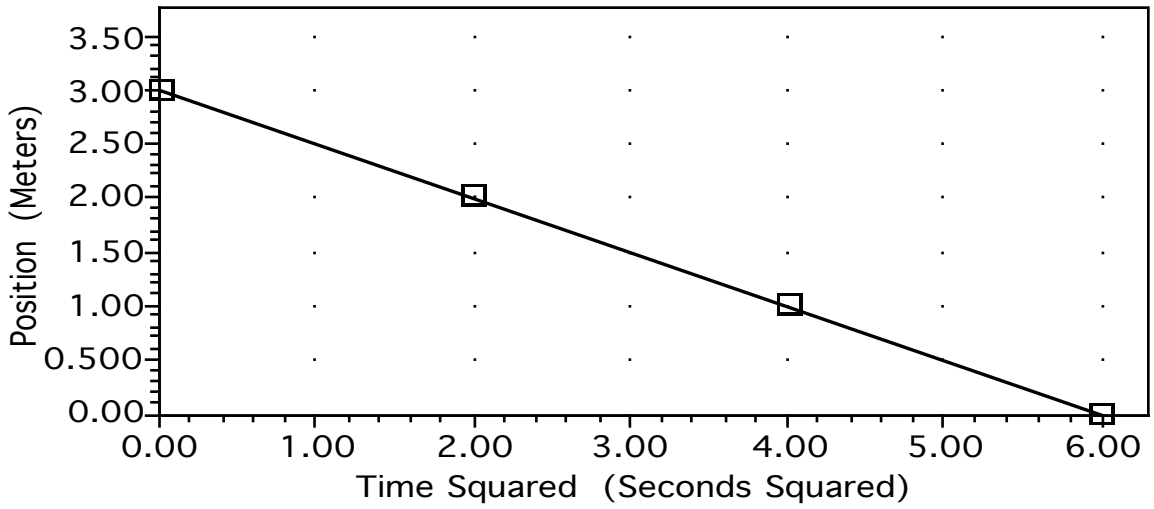
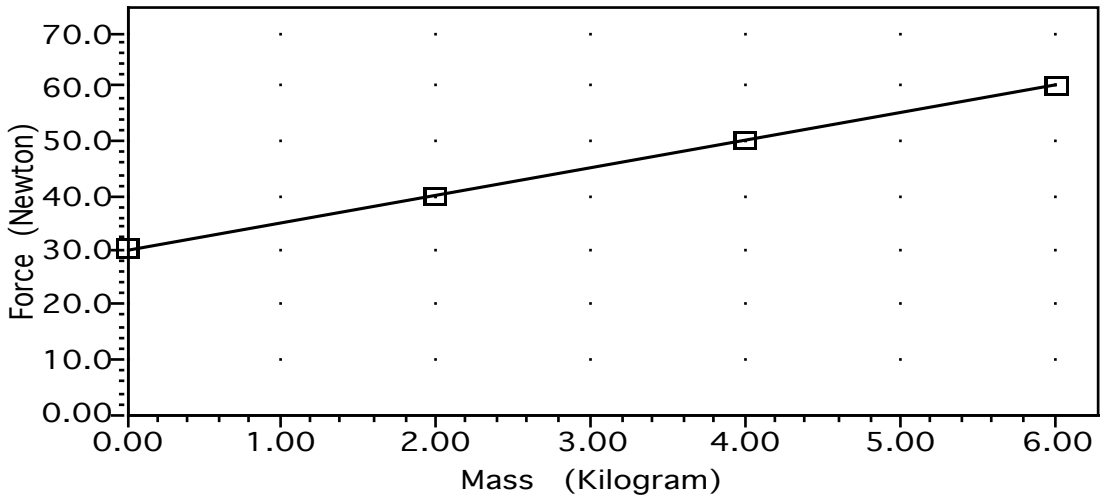


Graph #3

Slope:_____ Y-intercept:_____ Equation: _____



Graph #4

Slope:_____ Y-intercept:_____ Equation: _____