30S Applied Math **Name_____**

Introduction to Graphing & Linear Functions **Hand-in Assignment 2**

Lessons 3 and 4 (May 2020)

1. a) Determine the regression equation for the data shown.

Make of Car	Engine Size (L)	Fuel Use (L/100 km)
Chevy Chevette	2.6	6.7
Chevy Sprint	2.0	5.3
Chrysler 5th Avenue	6.2	11.1
Ford Mustang	6.0	9.5
Honda Civic	2.5	7.2
Jaguar XJ-S	6.3	1435
Plymouth Colt	2.5	6.8
Pontiac Grand Prix	6.0	10.6

b) Describe any trends or relationships.

c) Use the regression equation to predict the fuel use of a 4 L engine.

2. a) Sketch the scatterplot of the data shown in the table

Year	Car Sales ($1000's)
1960	325
1965	387
1970	448
1975	709
1980	640
1985	989

b) Describe any relationships between the year and car sales.

c) Determine the regression equation for the data.

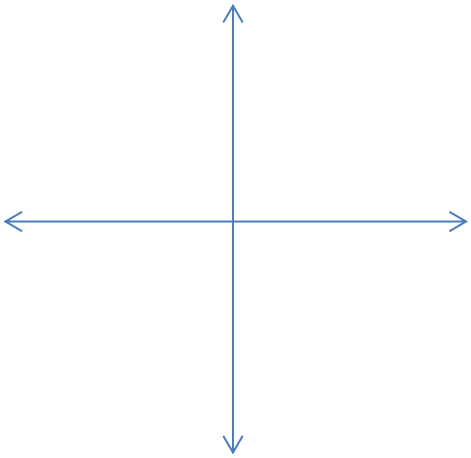
d) Use the equation to predict the car sales in the year 2000.

e) What assumption are we making in part d?

3. Analyzing Linear Functions when we are given the Equation

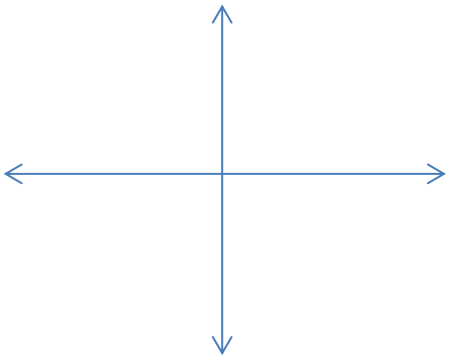
Enter the equation into your calculator: $y = -2x + 5$

Draw a sketch of the function. Label at least two points on the graph.



Slope Direction	
Sign of Leading Coefficient	
End Behaviour	
Domain	
Range	

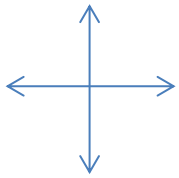
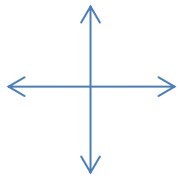
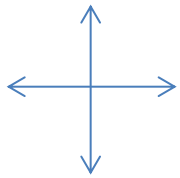
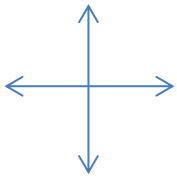
4. a) Draw a sketch of the function $y = -3$



b) Describe the end behavior and the slope.

c) This equation has a leading co-efficient of 0. Explain why.

5. Use the graphing calculator to help you analyze each linear function and complete the table.

Function	Sketch	Sign of Leading Co-efficient	Slope Direction	End Behaviour
$\mathbf{y = 3x + 4}$				
$\mathbf{y = -2x + 8}$				
$\mathbf{y = -\frac{1}{3}(x - 3)}$				
$\mathbf{y = 3(x - 8)}$				

6. State the requested characteristics of the function $y = 7.5x + 2.57$.

a) Sign of Leading Coefficient

b) Slope direction

c) Value of the y intercept

d) Value of the x intercept

e) End Behaviour

f) Domain and Range