

SLOPE-INTERCEPT form of a line: $y = mx + b$

m is the slope and b is the y -intercept

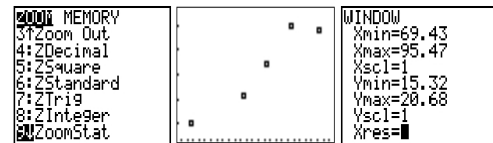
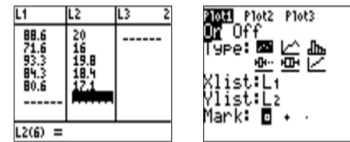
GENERAL form of a line: $Ax + By + C = 0$

Application: The data below was collected about crickets:

Temp. (°F)	88.6	71.6	93.3	84.3	80.6
Chirps/sec	20.0	16.0	19.8	18.4	17.1

Draw a scatter plot. Choose your axes carefully...

On your calculator...



Choose two points to make a trend line [(71.6, 16) and (84.3, 18.4)]

Use the trend line to predict how many chirps per second when the temperature is at 68°

$$m = \frac{\Delta y}{\Delta x} = \frac{18.4 - 16}{84.3 - 71.6} = \frac{2.4}{12.7} = \frac{24}{127} \approx 0.1890$$

Choose either of the points to put into our equation,

$$y - 16 = \frac{24}{127}(x - 71.6) \rightarrow y = 0.1890x + 2.4693$$

$$\text{At } x = 68, y = 0.1890(68) + 2.4693 = 15.3213 \rightarrow 15.3 \text{ cp/sec}$$