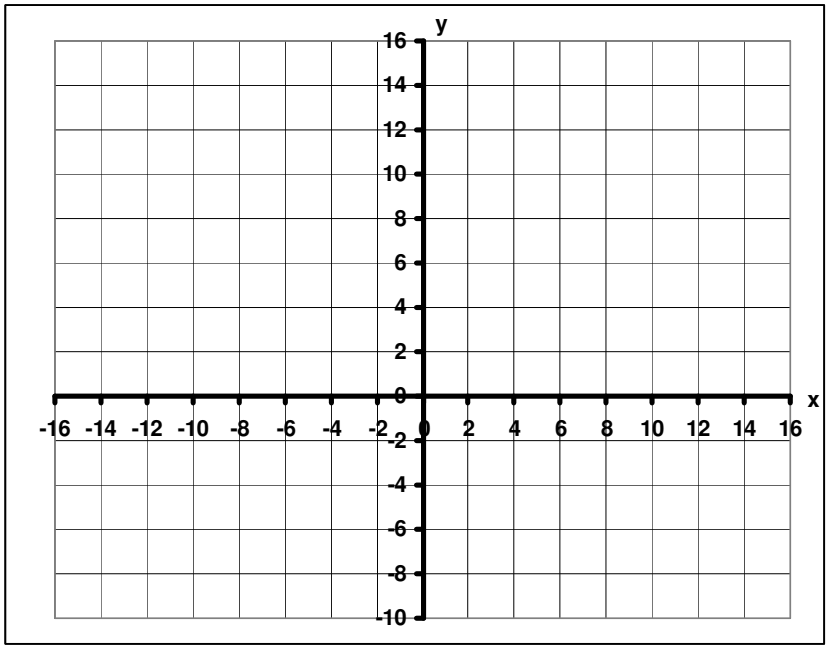
Classwork for MATH 100 Graphing Linear Relations

1. Frequently we wish to express the relationship between two variable quantities. If our variable quantities are represented by x and y respectively, one such relationship is expressed by the equation 2x + 3y = 24. Solutions for such equations are ordered pairs of numbers (x, y) that make the equation true when the values of x and y make the equation true when substituted for x and y respectively.

Complete the following table by find some pairs of values for x and y that make the equation 2x + 3y = 24 true. Plot your solutions on the graph below.

x	y	2x + 3y
	0	
0		
	2	
3		
	4	
9		
	-2	
-3		
5		
	5	

Solve 2x + 3y = 24 for y.



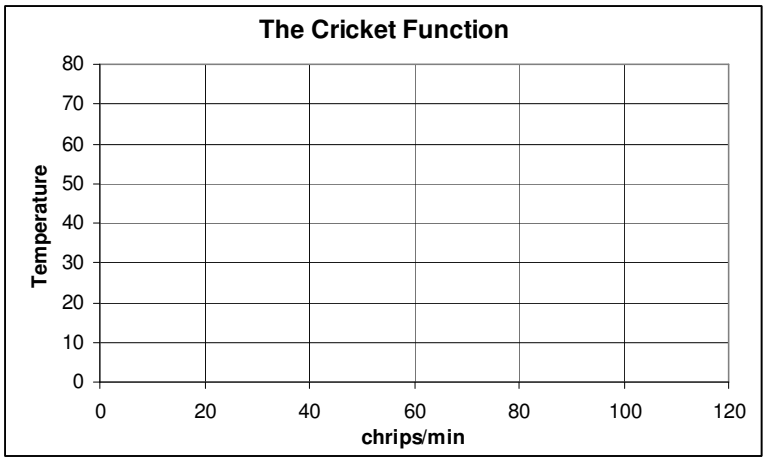
2. The snowy tree cricket is called the thermometer cricket because an accurate estimate of the current temperature can be made using the snowy tree cricket's chirp rate. One can estimate the temperature in degrees Fahrenheit by counting the number of time the cricket chirps in 15 seconds and adding 40.

Suppose we let

R = the snowy tree cricket's chirp rate per minute, and
T = the temperature in degrees Fahrenheit.

We can represent the relationship between T and R with the following table. (You complete the table.)

R (Chirps/min)	T (temperature, ^{o}F)
20	
40	
60	
80	
100	



The values in the table can then be plotted on the graph above giving us a graphical representation of the relationship between the temperature and the chirping rate. (You plot the data points on the graph above.)

We can also express the relationship between the temperature T and the chirping rate R using an algebraic rule or formula. (You write out such a rule and show how to use your rule to estimate the temperature if the chirping rate is 90 chirps/min.)