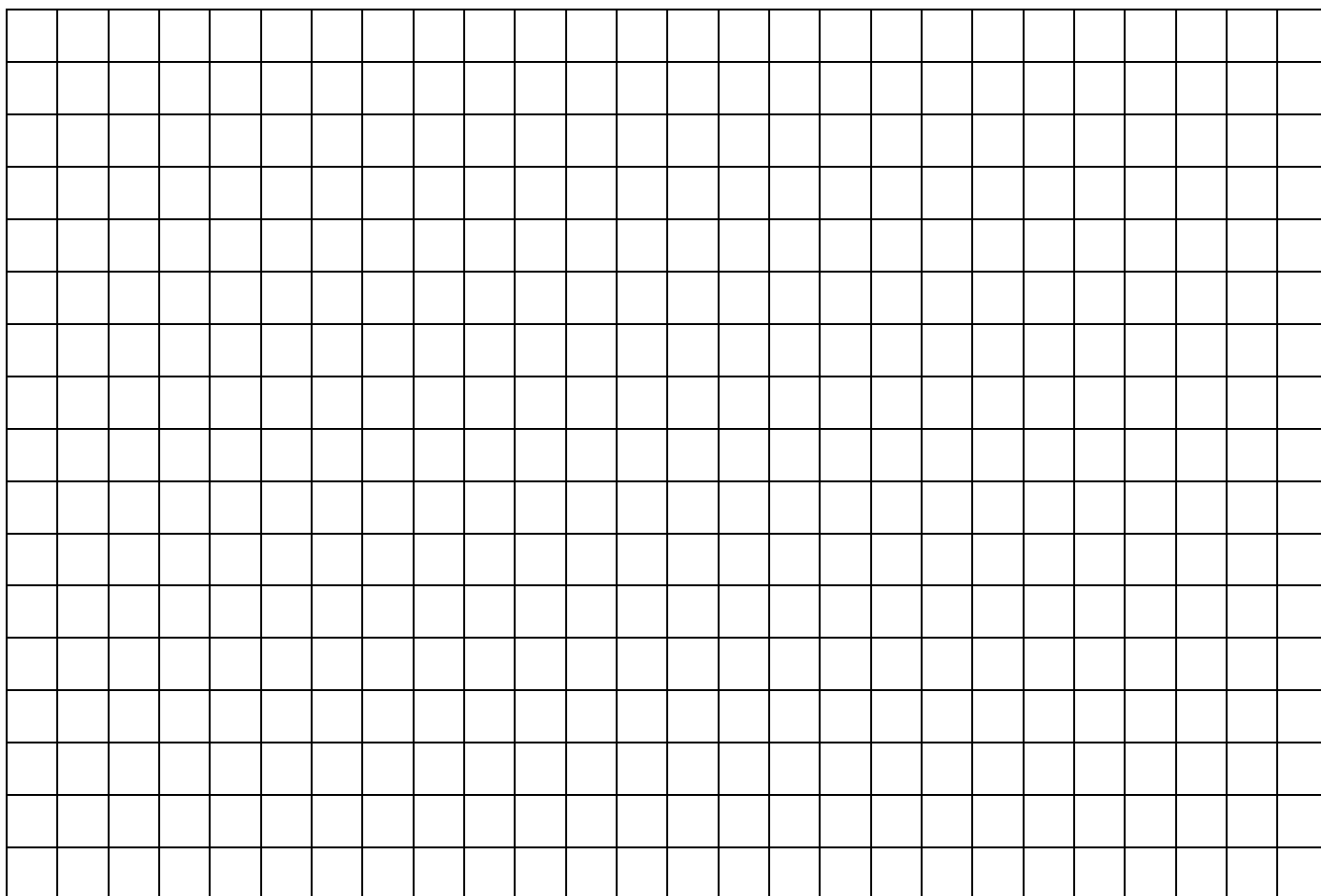




2. **Practice with regression:** If you are camping in the woods, can you tell what the temperature is by how quickly the crickets chirp? Examine the data below:

Temperature (°C)	Chirps/min
18	110
19	110
20	130
21	135
23	154
24	158
26	179
29	201
31	210
32	230

Enter this data into L2 and L3. Plot a scatterplot (the first choice in the plots, 2<sup>nd</sup> Y= again). Reproduce the scatterplot with labeled axes, scale and a title. Choose a scale appropriate for the space provided. Remember to change the x-and y-lists to L2 and L3!



- a. Find the line of best fit using these commands: STAT – CALC – 8 LinReg(a+bx), then enter “L2, L3”. Record the **equation** of the line along with  $r$  and  $r^2$  (turn “DiagnosticOn” under CATALOG if your calculator doesn't show  $r$  and  $r^2$ ).
- b. At 27°, what would you expect the number of chirps/minute to be (show your work and don't forget context— units)?

3. **Collect two newspaper or magazine articles** that include statistical concepts. These may include things like graphs, charts, or averages. They may also report conclusions made as a result of looking at data. For each of the articles, highlight the statistics mentioned and answer the following questions on another sheet of paper:
- What was the purpose of the article? Why was it written?
  - Were any conclusions stated? If so, what were they?
  - Is the article convincing? Do you believe the stated results? Explain.
- Be sure to include a copy of each article appropriately mounted with its source. Newspaper and magazine articles should be glued to an 8.5"x11" piece of paper. Internet articles do not need to be mounted.

4. **Algebra I & II practice.** Copy the information for each problem onto your own paper and answer the questions:

On graph paper, sketch the graph and state the slope and y-intercept of each line:

a.  $y = \frac{2}{3}(2x - 4)$                       b.  $3x + 2y = 14$                       c.  $3y - 6x = 4$

Solve for the variable (show your work):

d. $4(x - 2) = 3^2 - x$	m. $\frac{2}{3}y = \frac{8}{27}$
e. $9(2p + 1) - 3p > 4p - 6$	n. $\frac{m}{12} + \frac{5}{6} = \frac{5}{24}$
f. $(q - 12)3 \leq 5q + 2$	o. $x^2 - 8x + 7 = 0$
g. $-3x^2 + 343 = 0$	p. $\sqrt{2x + 10} = x + 1$
h. $2\sqrt{x} + 9 = 21$	q. $\log_3 81 = x$
i. $\ln x = 1.6873$	r. $\log_x 256 = 8$
j. $\log_3 x = 5$	s. $\log_5(x - 4) = 0$
k. $\log 42.117 = .4x - 3.08$	
l. $\frac{1}{3}n + 3 = n - 2$	

Write the equation of the line containing the given points (show your work):

t.  $(6, -2)$  and  $(0, 5)$                       u. perpendicular to:  $y = 2x - 1$ , contains  $(2, 7)$

For each function, find  $f(x)$  for  $x = -3, 0, 2$

v.  $f(x) = 4x - 2$                       w.  $f(x) = 3x^2$

On your graph paper, create and sketch a(n):

- x. linear function                      y. exponential function  
z. quadratic function

5. **Statistics Textbook.** Read Chapter 1 of your textbook. Be prepared to take a quiz on the material the first week of class.