

Understanding the Graph

3. What is the real-world meaning of the slope of the line that you have graphed?
 - a. What is the meaning of the x -intercept?
 - b. What is the meaning of the y -intercept?
 - c. Find the value of T that makes I negative.
4. Now change the relative humidity to 40 percent. Explain how the graph changes. How hot would it have to be for fire occurrence to be considered very likely?
5. The work that you did in Problem 4 can be done algebraically, without using the calculator. Explain how you might do this work.

6. Next, hold the temperature constant, and vary the relative humidity. Fix the temperature at 30 degrees Celsius and graph I vs. R on your calculator. Describe your results and the window that you used.

a. Explain the real-world meaning of the slope of the line that you have graphed.

b. Use your calculator to complete the following table.

TEMPERATURE (°C)	HUMIDITY AT WHICH FIRE DANGER BECOMES LIKELY	HUMIDITY AT WHICH FIRE DANGER BECOMES UNLIKELY
30		
35		

7. On the basis of your answers to the previous questions, is this fire index more sensitive to temperature or to humidity? Explain your analysis.