Linear Function Worksheet

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Abstract

How often do we need to think about linear functions? Not often, you imagine. Nonetheless, there is one problem that I encounter relatively often in my life that is solved via linear functions. Someone hears that something is at a certain temperature, but the units are in Celsius. "How much is that in Fahrenheit?" they ask, and then this is basically what I tell them....

In the Celsius temperature scale, water freezes at 0^oC and boils at 100^oC. In the Fahrenheit scale, water freezes at 32^oF and boils at 212^oF. Assuming that the Celsius temperature C and Fahrenheit temperature F are related by a linear equation, find C as a function of F.

1. In this first part, graph the data (there's not much!), with Fahrenheit on the x-axis, and Celsius on the y-axis. Graph the linear function that we assume relates the two variables

2. Compute the slope of the line. What is the intercept term? Write the equation of the line in slope-intercept form. How do we interpret the slope? the intercept?

3. Use the point-point form to write the equation of the line.

4. Suppose your body temperature is 39^{o}C. How do you feel?