The Three Meanings of Minus

The *minus* sign can mean three different things, depending on the context.

• It can mean **negative**. In front of a positive number, and only there, it means negative. Example: -2 can mean negative 2.

• It can mean **opposite**. The opposite of a number is what you add to it to get zero. Example: -2 can mean the opposite of 2, which is negative 2, since $2 + -2 = 0$. Likewise, $-x$ means the opposite of x, and $x + -x = 0$.

• It can mean **subtract**. Between two expressions, it means subtract the second expression from the first one. For example, $x - 3$ means subtract 3 from x.

1. For each of the following, write an explanation of what the minus sign means.
    a. $y - 5$
    b. $-(5x + 1)$
    c.   -2
    d. $-x$

2. Write the value of $-x$ if:
    a. $x = 2$
    b. $x = -3$.

3. True or False? (Explain your answers.)
    a. $-x$ is always negative.
    b. $-x$ can be positive.

4. Find the opposite of each quantity. Remember: A quantity and its opposite add up to zero.
    a. x
    b. 2
    c. -2
    d. $-x$
    e. $x + 2$
    f. $x - 2$