

## 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.  $x - 2$