

A function is like a “factory” that accepts raw materials (your values, called the *domain*) then grinds them up to form a new item (your answer, called the *range*).

This diagram shows a “factory” for the function  $f(x) = 3x$ .

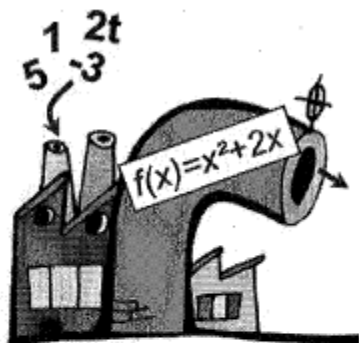
The domain values 0, 2, -3 and  $a$  are going in and the range answers 0, 6, -9 and  $3a$  are coming out. Every value that goes in to this “factory” gets multiplied by 3.

In the problems below, send the 4 stated domain values (the raw materials) into the function “factories” and list the range values (the answers coming out).

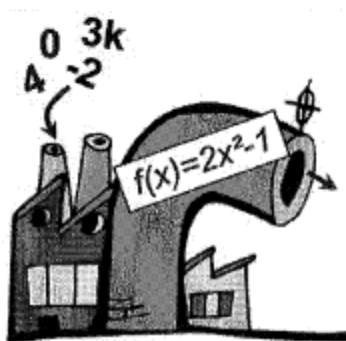
<p>1.</p>	<p>2.</p>
<p>3.</p>	<p>4.</p>
<p>Now, see if you can determine the <b>function</b> at work in the following two function factories.</p>	
<p>5.</p>	<p>6.</p>

Now, let's try some harder problems. There is more algebra at work in the next two problems.

7.



8.



9. Consider this last function factory. Which of the domain values can NOT be used as raw material in this factory because it is going to cause a problem? \_\_\_\_\_ What problem does this value cause? \_\_\_\_\_ State the answers for the remaining domain values.

