Functions

Relation
      set of ordered pairs
domain
      first coordinate
      x
range
      second coordinate
      y

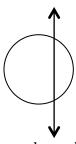Use the following relation, find the domain and range.
{(3, 2), (2, 7), (5, 8)}

In a relation, when each element of the domain is paired with exactly one element of the range, then the relation it is a function.

{(1, 2), (2, 3), (4, 4)}

Vertical line test is another way to determine if a relation is a function.

If you can draw any vertical line so that the line passes through no more than one point of the graph, then the relation is a function.

Notice the line passes through the circle at two points, therefore the circle is not a function.

Equations that represent functions are often written using function notation.
The equation, y = 2x + 1 can be written f(x) = 2x + 1. The symbol f(x) is read "f of x".
so f(3) is read, 'f of 3'.

If 3 is an element of the domain of the function, then f(3) is the corresponding element of the range.

To show the value of f(3) is 7, it would appear, f(3) = 7

Find f(15) if f(x) = 100x – 5 x^2