Section 4-6
Formalizing Relations and Functions

Students will be able to:
-determine whether a relation is a function
-find domain and range and use function notation.

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Look at the Solve It, Getting Ready problem on page 268 with a partner and answer the question as to where he started.

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A relation is a pairing of numbers in one set, called the **domain**, with numbers in another set, called the **range**.

(x, y)

The domain is the input values (x-values)
The range is the output values (y-values)

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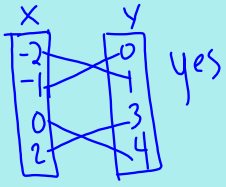
A function is a special kind of relation in which each value of the domain is paired with exactly one value of the range.

{(2, 3), (-2, 1), (-1, 0), (0, 4)}

Mapping Diagram:



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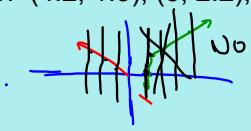
Identify the domain and range. Is it a function?

1. (4.2, 1.5), (5, 2.2), (7, 4.8), (4.2, 0)



2. (-1, 1), (-2, 2), (-3, 3), (-4, 4)

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By analyzing the graph of a function, you can determine whether it is a function or not.

Graph the previous two functions and try to determine what would indicate whether something is a function or not.

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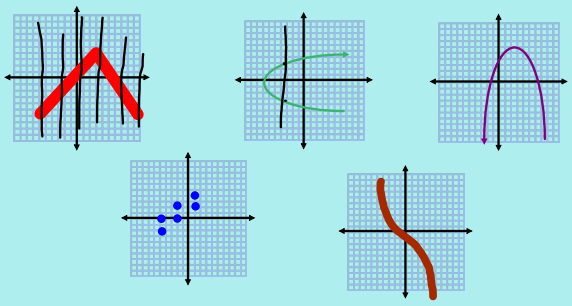
If a graph passes the vertical line test, meaning each vertical line will only cross the graph at one point, then it represents a function.



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Functional Notation:

y = -2x + 6

In functional notation:

f(x) = -2x + 6

f(x) replaces y

Can also be g(x) and h(x)

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t(x) = 65x represents the number of words that you can type per minute.

How many words can you type in 7 mins?

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Finding domain and range.

The domain of f(x) = 4x - 12 is $x=$ {1, 3, 5, 7}.
What is the range?

R: {-8, 0, 8, 16}

Nov 27-10:14 AM

Hwk: pg. 271
#8 - 24 evens, 28, 30, 32, 38, 40

Nov 27-10:15 AM