

5 minute check

please turn to p. 63 and complete #1-12

1. 9

2. -2

3. -11

4. -2

5. $0.75y - 3.75$

6. $-0.36z - 3.6$

7. $\frac{1}{3}x - 2$

8. $-\frac{5}{9}a - 15$

9. 15

10. -9

11. 2.5

12. -10.5

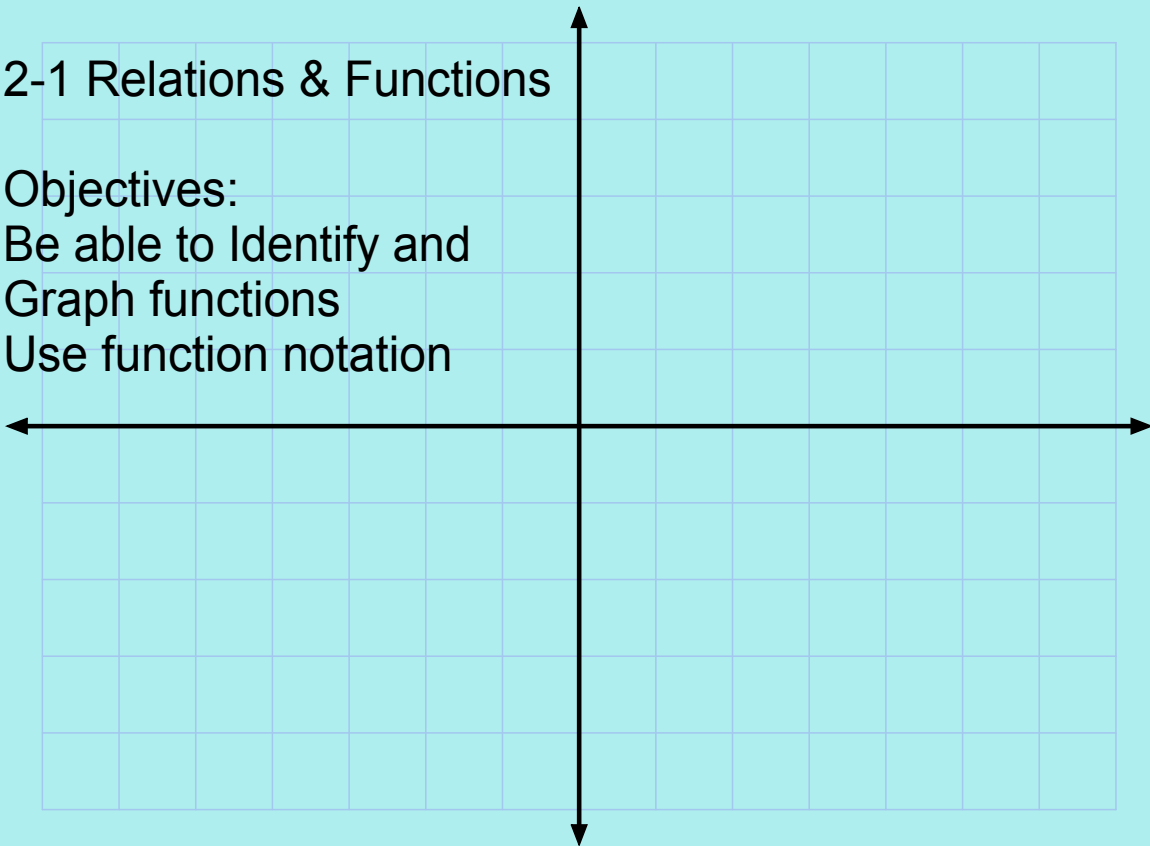
5-min check

2-1 Relations & Functions

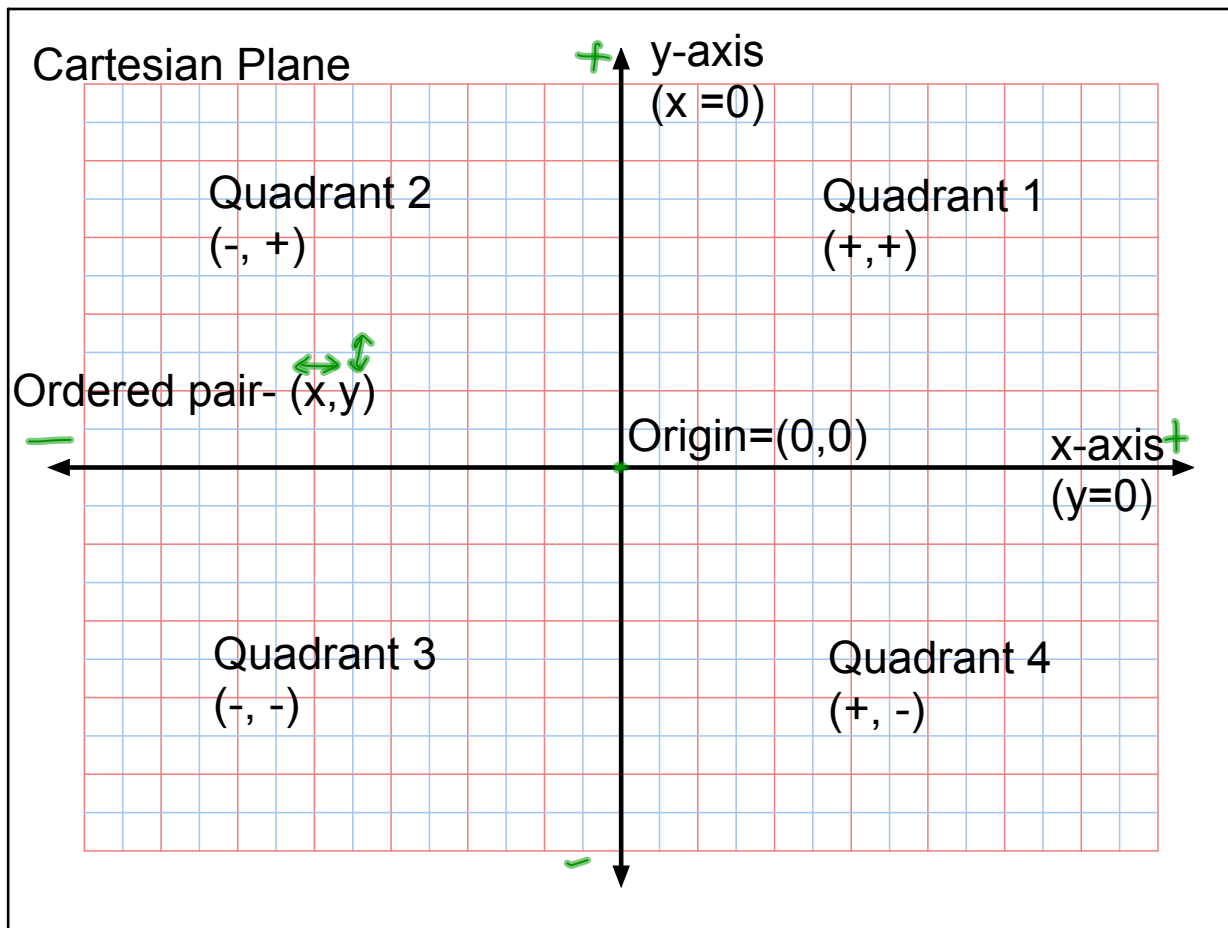
Objectives:

Be able to Identify and
Graph functions

Use function notation



2-1



Definitions:

Relation- A set of ordered pairs

Domain- set of x-coordinates $D=\{.....\}$

Range- set of y-coordinates $R=\{.....\}$

Mapping- shows how each member of the domain is paired with a member of the range

Function- a special relation in which each element of the domain is paired with exactly one element of the range

1. Discrete function- a countable number of points
2. Continuous function- an infinite number of points

Vertical line test- if you can draw any vertical line that hits more than one point in a relation then it is not a function

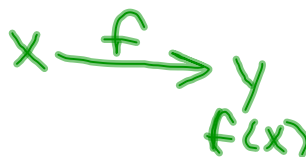
Function notation-

$f(x)$

function f of x

Use function f to plug x values into and get y value.

(x, y) is the same as $(x, f(x))$

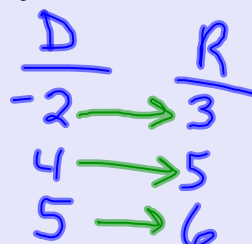


function notation

Example 1:

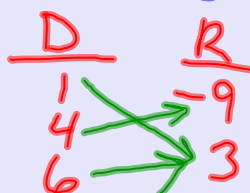
Map the following and are they functions?

a) $\{(4,5), (-2, 3), (5,6)\}$



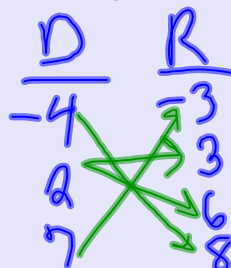
yes

b) $\{(1,3), (4, -9), (6,3)\}$



yes

c) $\{(2,3), (-4, 8), (2,6), (7,-3)\}$

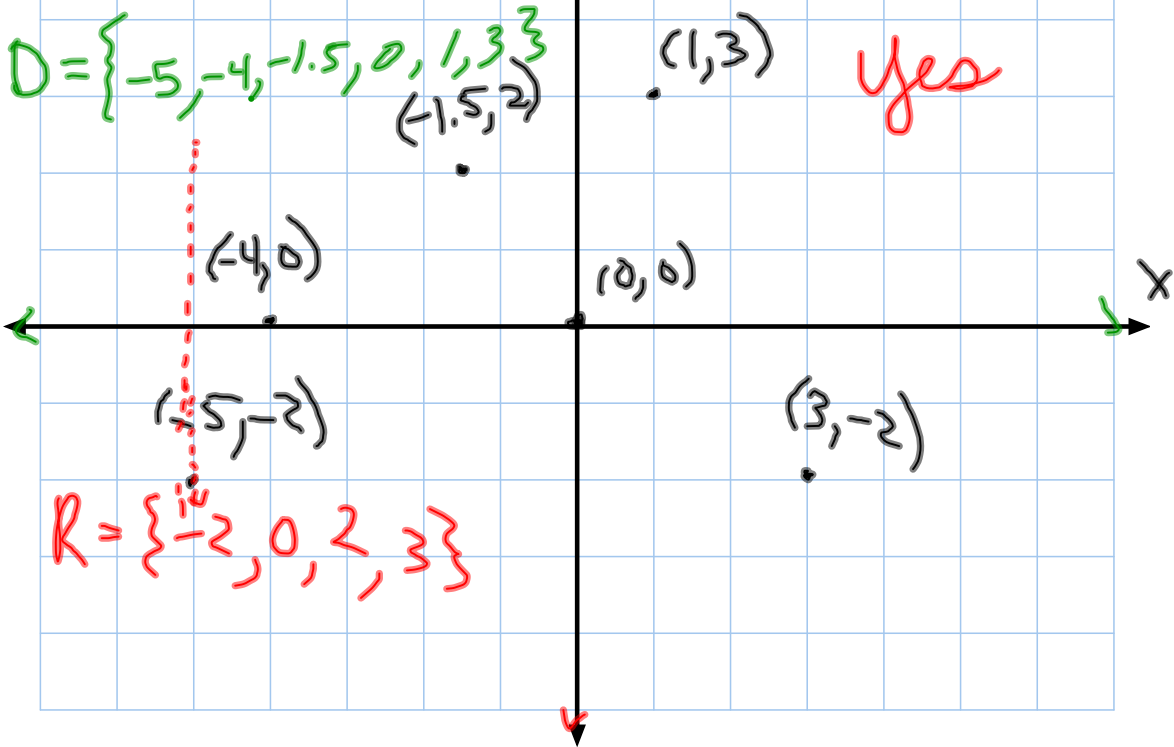


No

ex 1

Example 2:

State the domain and range. Is it a function?

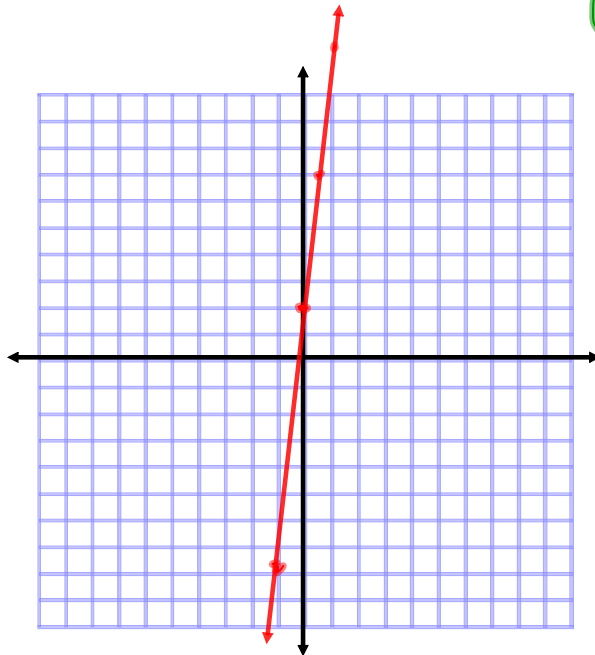


ex 2

Example 3:

Does the equation $y = 10x + 2$ represent a function?

x	y
-1	-8
0	2
$\frac{1}{2}$	7
1	12



Yes

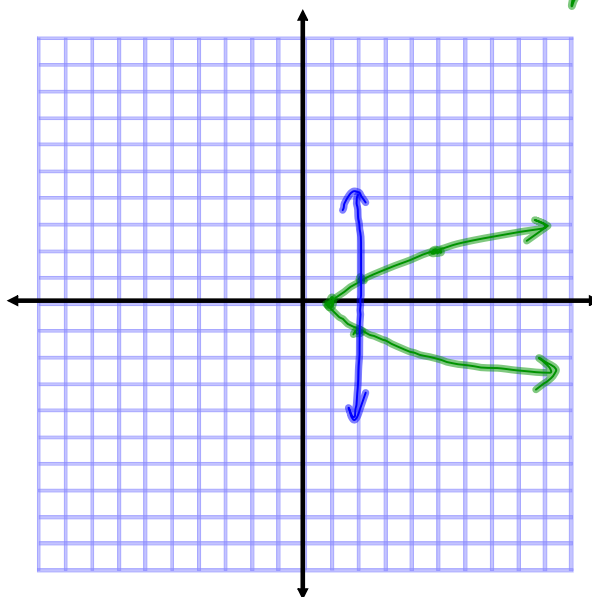
ex 3

Example 4:

Does the equation $x = y^2 + 1$ represent a function?

No

x	y
2	-1
1	0
2	1
5	2



ex 4

Example 5:

given the function $f(x) = 4x + 10$ find each value:

$$a) f(3) = 4 \cdot 3 + 10 = 12 + 10 = 22 \quad (3, 22)$$

$$b) f(-3) = 4 \cdot (-3) + 10 = -12 + 10 = -2 \quad (-3, -2)$$

ex 5

Example 6:

a) find $g(a-2)$ if function $g(x) = 3x + 2$

$$\begin{aligned} g(a-2) &= 3(a-2) + 2 \\ &= 3a - 6 + 2 \end{aligned}$$

b) find $f(1/2)$ if $f(n) = 13/(n^2-1)$

$$\begin{aligned} f\left(\frac{1}{2}\right) &= \frac{13}{\frac{1}{2}^2 - 1} = \frac{13}{\frac{1}{4} - 1} \\ &= \frac{13}{-\frac{3}{4}} = \frac{13}{1} \times \frac{-4}{3} \\ &= -\frac{52}{3} \end{aligned}$$

ex 6

Assignment:

p. 69

#16-43

Assignment