

9/23 Notes

WARM UP

1. What is a function?
2. What does $f(x)$ mean?
3. $10 = \sqrt{\frac{m}{10}}$
4. $(14-x)^2 = 25$

Topic: 4.2 pt 1 Functions

- functions are a specific relationship where for every x -value there is 1 y -value (only 1)
- $f(x)$ is the notation for a function
→ it works just like y , f just denotes the equation is a function

algebra...

$$f(x) = 2x^2 - 5x + 6$$

$$f(5) = 2(5)^2 - 5(5) + 6$$

$$f(5) = 2 \cdot 25 - 25 + 6$$

$$f(5) = 50 - 25 + 6$$

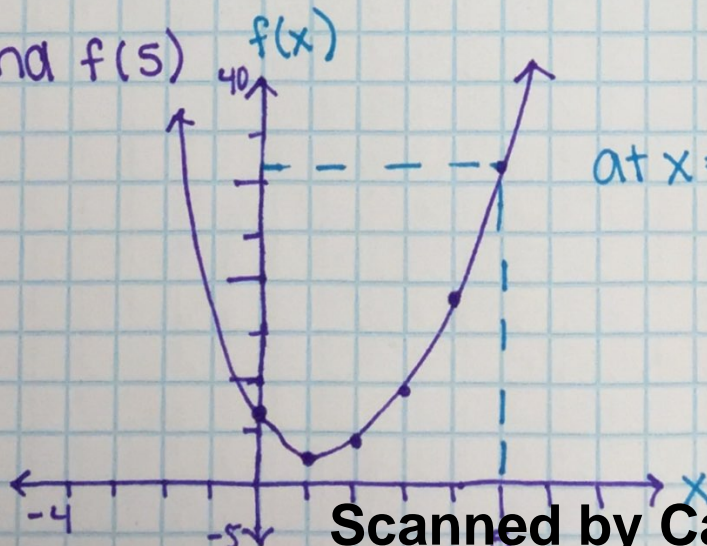
$$f(5) = 31$$

everywhere I see x , I put in 5.

solve

write $f(5)$ each time

graph... find $f(5)$



at $x=5$, $f(x) = 31$
so $f(5) = 31$

domain, range & notation

- domain is all x-values that are possible
→ always look left to right
- range is all possible y-values
→ always look bottom to top

old notation

$$D: -3 < x \leq 3$$

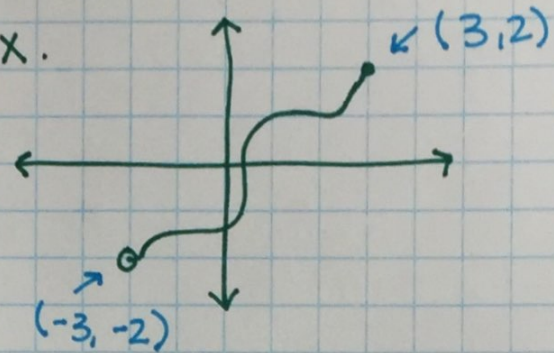
$$R: -2 < x \leq 2$$

* remember

• is \leq or \geq

o is $<$ or $>$

ex.



new notation (interval notation)

\leq, \geq is $[]$ hard brackets

$<, >$ is $()$ soft brackets (this is always used for ∞ & $-\infty$)

$$D: (-3, 3]$$

$$R: (-2, 2]$$

If you have multiple components you use \cup to mean "in union with"

Worksheet examples