

$(1, 3)$

$(2, 3)$

$(3, 3)$

$(4, 3)$

$(5, 6)$

$(6, 6)$

10-1-19 3rd Trig

Old days, we said evaluate
 $4x - 2$ when $x = 5$.

$$4(5) - 2 = 18$$

Now, we would say $f(x) = 4x - 2$.
Evaluate $f(5)$.

Function notation

$$\textcircled{1} f(x) = x^2 - 2$$

$$f(-5) = (-5)^2 - 2 = 23$$

$$\textcircled{2} h(x) = \frac{4x+4}{2}$$

$$h(-2) = \frac{4(-2)+4}{2} = \frac{-4}{2} = -2$$

Domain vs. Range
x values y-values

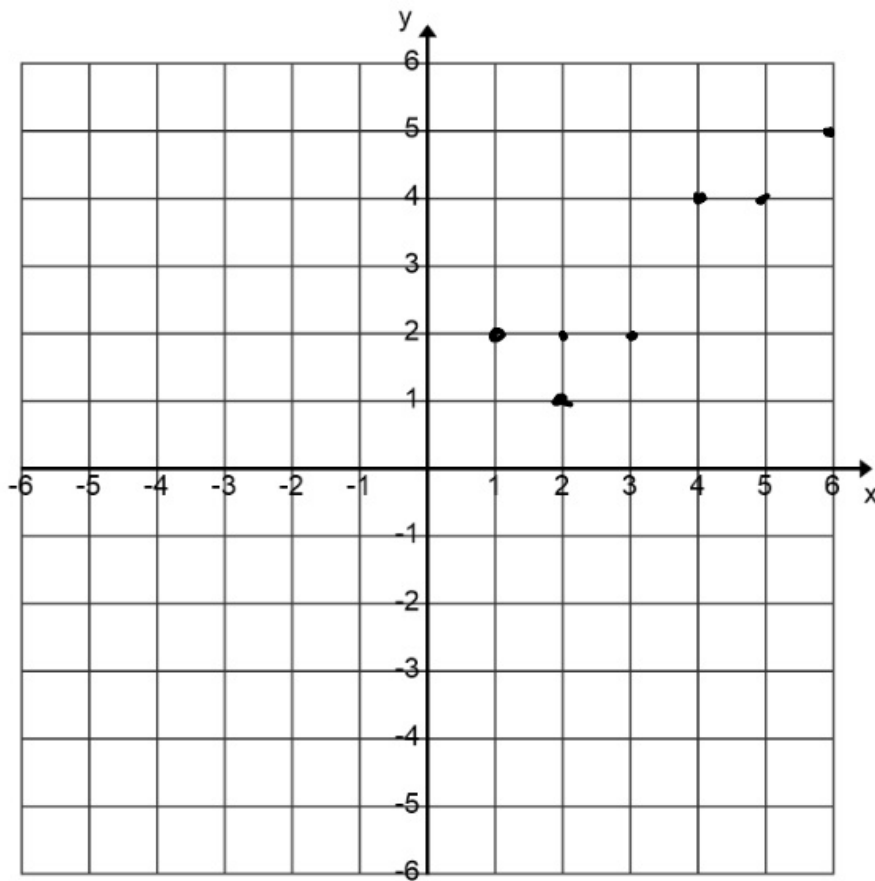
$$f(x) = \frac{4}{x-10}$$

Domain All x's work except $x \neq 10$.

$$\{(2,6)(4,10)(5,10)\}$$

$$\text{Domain: } \{2,4,5\}$$

$$\text{Range: } \{6,10\}$$



Function: For every x , there is only ONE y value that goes with that x .

$$\textcircled{3} \{ (2, 6) (3, 7) (4, 9) (5, 6) \}$$

Function ✓

$$\textcircled{4} \{ (\underline{1}, \boxed{6}) (2, 7) (3, 10) (\underline{1}, \boxed{15}) \}$$

Not a function ✗

10-1-19 4th Trig

Long ago we would say
evaluate $4x-2$ if $x=10$.

Now we say if $f(x)=4x-2$,
evaluate $f(10)$.

$$\begin{aligned}\textcircled{1} f(x) &= x^2 - 2 \\ f(-3) &= (-3)^2 - 2 \\ &= 7\end{aligned}$$

$$\begin{aligned}\textcircled{2} h(x) &= \frac{2x-6}{2} \\ h(-5) &= \frac{2(-5)-6}{2} = \frac{-16}{2} = -8\end{aligned}$$

Domain vs. Range
x values y values

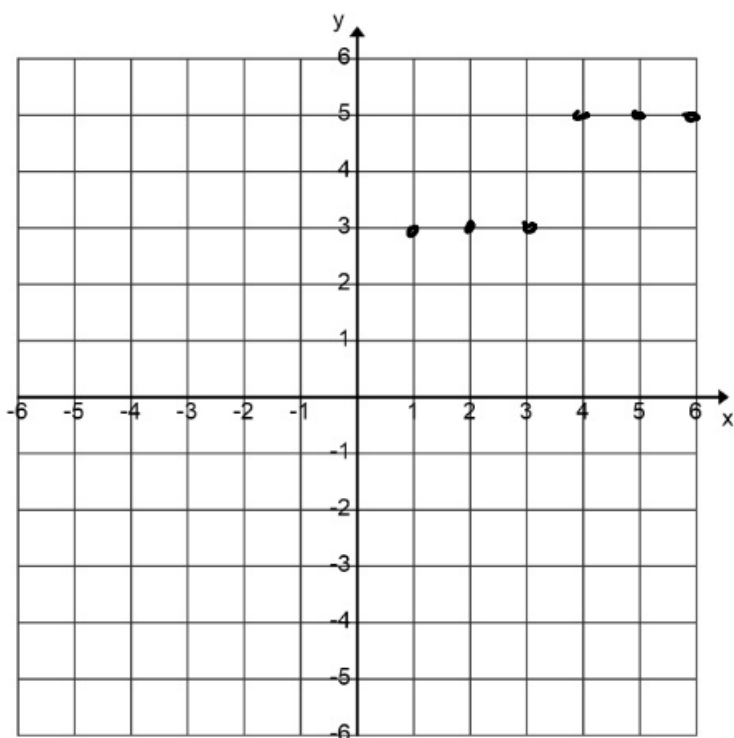
$$\textcircled{3} f(x) = \frac{4}{x-3}$$

Domain: All x 's work except
 $x \neq 3$.

$$\textcircled{4} \{ (2,5) (4,6) (7,10) (8,6) \}$$

Domain: $\{2,4,7,8\}$

Range: $\{5,6,10\}$



Function: For every x value, there can only be ONE y value that goes with the x

⑤ Is this a function

$$\{(2, 6), (4, 10), (2, 5)\}$$

No

⑥ Is this a function

$$\{(2, 6), (3, 6), (5, 6)\}$$

Yes