

10.1 – Properties of Functions

A _____ is a rule or relationship that assigns each element from one set to _____ element from another set.

Another way to say this is, every _____ has exactly one _____.

We've already worked with functions in previous quarters and specifically with linear functions at the beginning of this quarter. Let's review:

Domain:

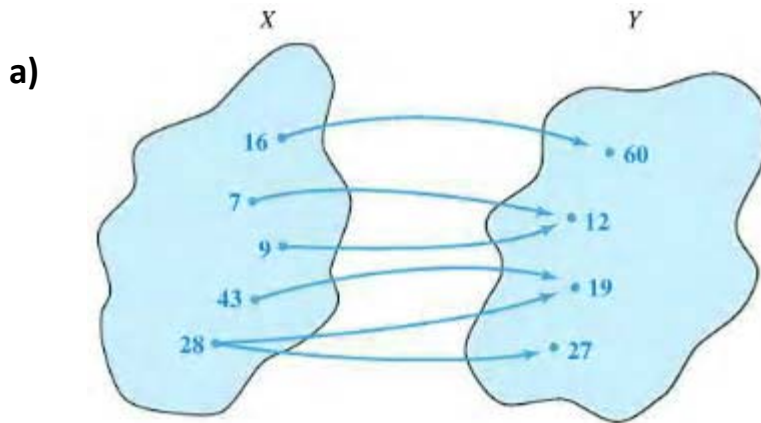
Range:

The Dow Jones Industrial Average is a good example a function that investors care about.



Vertical Line Test -

#1. Which of the following are functions?



b) The $\sqrt{\quad}$ key on the calculator.

c) The set of ordered pairs with the 1st element being fathers and the second being their children.

d) The set of ordered pairs with the 1st element being SID numbers and the 2nd being Highline students.

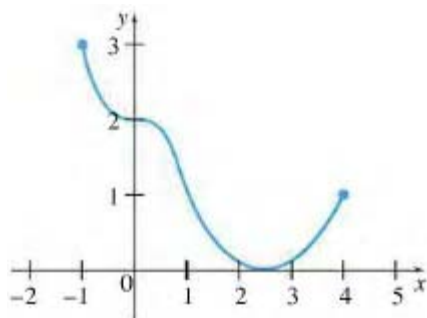
What about the reverse?

#2. Which of the following are functions? If so, state their Domain and Range.

a) $y = 3 - 2x^2$

b) $y^2 = x$

c)



#3. Find the domain and range of the following functions.

a) $y = \sqrt{7-x}$

b) $y = \frac{5}{x^2-16}$

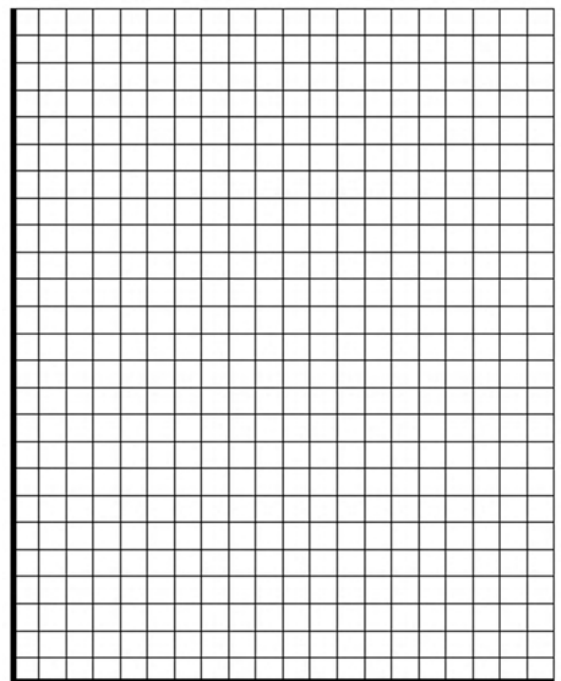
#4. Given the function $h(x) = -x^2 - 2x + 3$

a) $h(2)$

b) $h(a)$

c) $h(x+h)$

#5. You want to rent a paddle boat at a lake where you're vacationing. They charge \$8 for the first two hours, and then \$3 per hour for each additional hour or portion of an hour. Let $P(h)$ represent the cost to rent the paddle boat for h hours. Graph $P(h)$ over the interval $(0,8]$



This is called a _____ function.

