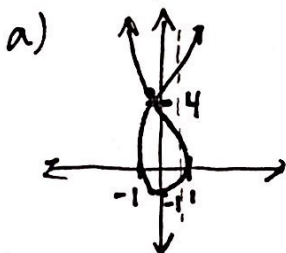


1-78) Which are functions? If it is not, give a reason to support your answer.



b)

x	y
-3	19
5	19
19	0
0	-3

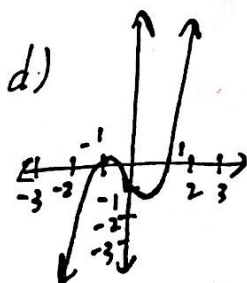
Appears to be a function

Not a function.  
More than one output value for the same input value.

c)

x	7	-2	0	7	4
y	10	0	10	3	0

Not a function because  $x=7$  has two values: 10 and 3



Function. One y value for each x value. Passes vertical line test.

1-79) Find the x- and y-intercepts for the graphs of the relationships in problem 1-78.

a) x-intercepts:  $(-1, 0)$   $(1, 0)$   
y-intercepts:  $(0, -1)$   $(0, 4)$

b) x-intercept:  $(19, 0)$   
y-intercept:  $(0, -3)$

c) x-intercepts:  $(-2, 0)$   $(4, 0)$   
y-intercept:  $(0, 10)$

d) x-intercepts:  $(-1, 0)$   $(1, 0)$   
y-intercept:  $(0, -1)$

1-80) Find the possible inputs for the given outputs.

1.2.5  
1-78 to 1-82

a)  $x = ?$

$$f(x) = 3x - 7$$

$$\hookrightarrow f(x) = -1$$

$$\text{so, } -1 = 3x - 7$$

$$\frac{6}{3} = \frac{3x}{3}$$

$$\boxed{x = 2}$$

check!

$$f(2) = 3(2) - 7 = 6 - 7 = -1 \checkmark$$

b)  $x = ?$

$$f(x) = \sqrt{2x - 6}$$

$$\hookrightarrow f(x) = 10$$

$$10 = \sqrt{2x - 6}$$

check!

$$(10)^2 = (\sqrt{2x - 6})^2 \quad f(53) = \sqrt{2(53) - 6}$$

$$10^2 = 2x - 6 \quad f(53) = \sqrt{106 - 6}$$

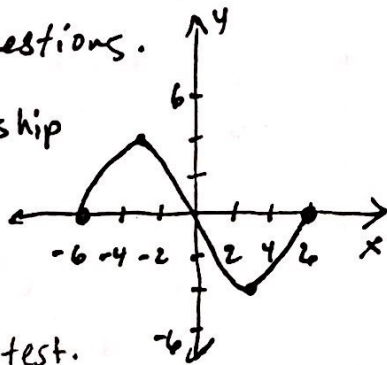
$$\frac{100}{+6} = \frac{2x}{+6} \quad = \sqrt{100}$$

$$\frac{106}{2} = \frac{2x}{2} \quad = 10 \checkmark$$

$$\boxed{x = 53}$$

1-81) Use the relationship to answer the questions.

a) is the relationship a function?



Yes. One y-value for each x-value.  
Passes vertical line test.

b) Domain: x-values between -6 to 6

$$-6 \leq x \leq 6$$

c) Range: y-values between -4 to 4

$$-4 \leq y \leq 4$$

1-82) What values of x will make the equations true?

a)  $\sqrt[3]{x} = -2$      $\sqrt[3]{-8} = -2$

$(\sqrt[3]{x})^3 = (-2)^3 = -8$      $x = -8$

b)  $\sqrt{x} = 12$      $\sqrt{144} = 12$

$(\sqrt{x})^2 = (12)^2$      $x = 144$

c)  $|x+1| = 4$

check:

$|4| = 4$      $x+1 = 4$

and

$x+1 = 4$

$|3+1| = 4$

$|-4| = 4$      $x+1 = -4$

$x = 3$

$4 = 4$  ✓

$-x+1 = -4$

$x = -5$

check:  $|-5+1| = 4$

$|-4| = 4$

$4 = 4$  ✓