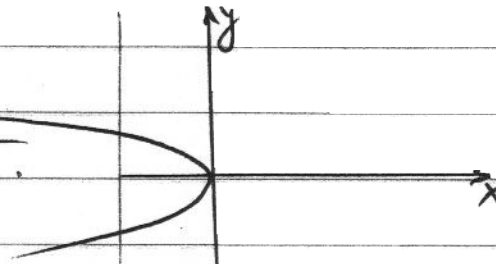


Section 3.2

Da ZABDANI

#15)

By vertical line test  
it is not a function.



a) Domain:  $x \in (-\infty, 0]$   
Range:  $y \in (-\infty, +\infty)$

b) Intercepts:  $(0, 0)$

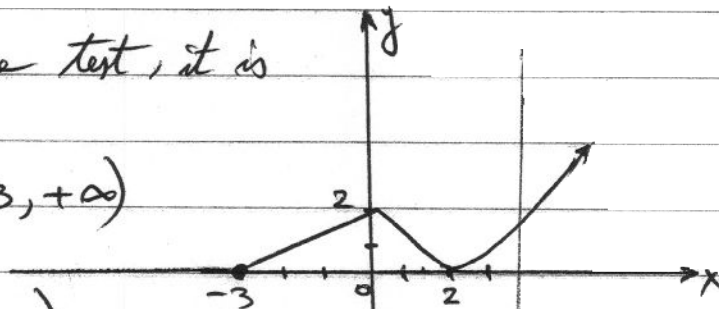
c) Symmetric w/rt  $x$ -axis.

#20)

By vertical line test, it is  
a function.

a) Domain:  $x \in [-3, +\infty)$

Range:  $y \in [0, +\infty)$



b) Intercepts:  $x$ -Intercepts are  $(-3, 0), (2, 0)$   
 $y$ -Intercept  $(0, 2)$

c) No Symmetry at all.

Section 3.2

Dr. ABDALW

#25)  $f(x) = \frac{x+2}{x-6}$

a) Is the point (3,14) on the graph of f?

$$f(3) = \frac{3+2}{3-6} = \frac{5}{-3} = -\frac{5}{3} \neq 14$$

∴ (3,14) is NOT on the graph of f.

b)  $x=4$  ,  $f(4) = \frac{4+2}{4-6} = \frac{6}{-2} = -3$

∴ (4,-3) is on the graph of f.

c)  $f(x)=2 \Rightarrow 2 = \frac{x+2}{x-6}$

$$\Rightarrow 2(x-6) = x+2$$

$$2x-12 = x+2$$

$$\Rightarrow x = 14 \Rightarrow (14,2) \text{ is on the graph of } f.$$

d) Domain:  $x-6 \neq 0 \Rightarrow x \neq 6$

∴ Domain  $x \in (-\infty, 6) \cup (6, +\infty)$

e) X-Intercepts  $\Rightarrow y=0 \Rightarrow \frac{x+2}{x-6} = 0 \Rightarrow x+2 = 0$   
 $x = -2$

∴ X-Intercept (-2,0)

f) Y-Intercept  $\rightarrow x=0$

$$y = f(x) = f(0) = \frac{0+2}{0-6} = -\frac{1}{3}$$

∴ Y-Intercept (0, -1/3)