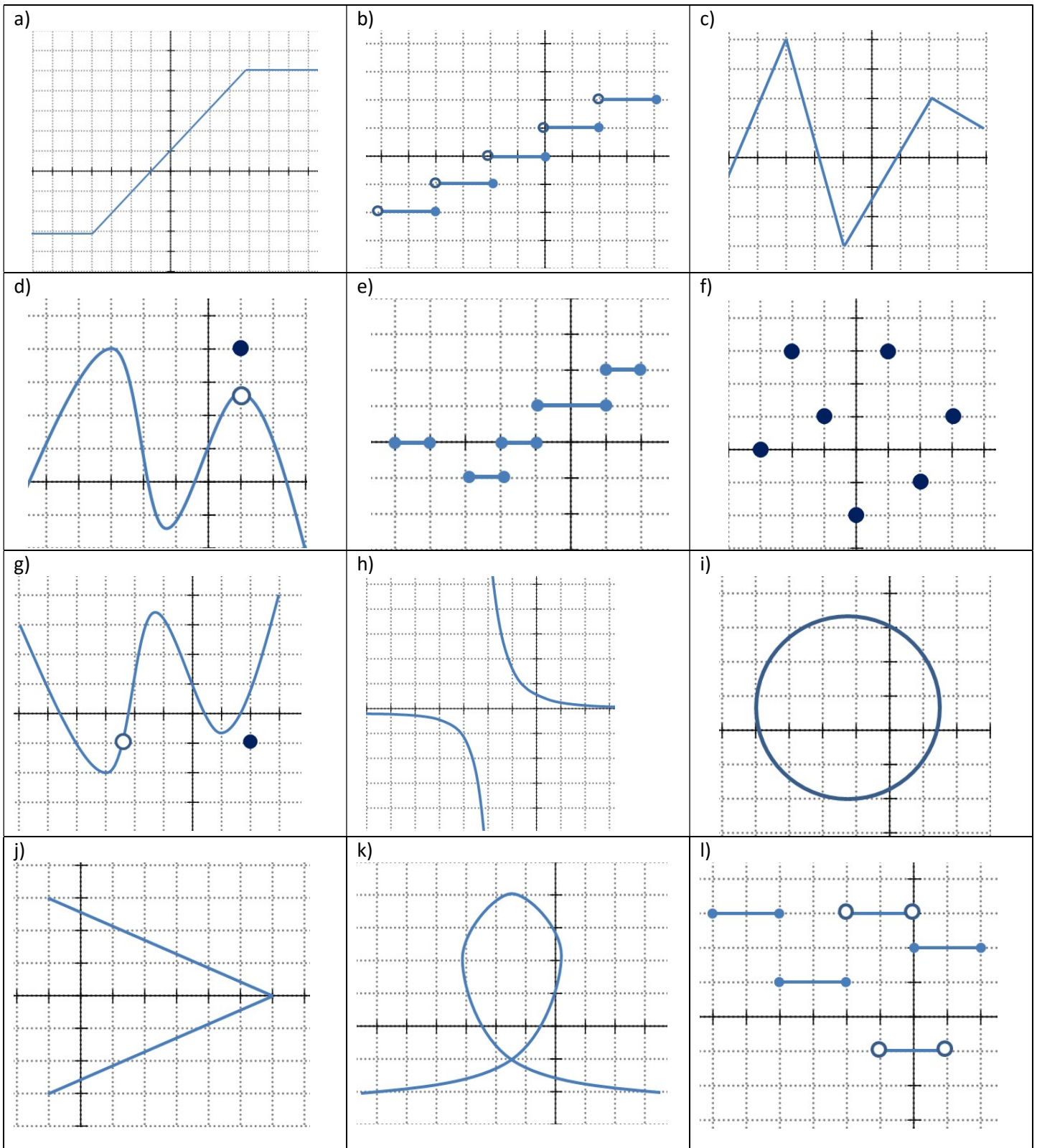


Name: \_\_\_\_\_

Date: \_\_\_\_\_

**Math 10 Enriched: HW 0.2 Introduction to Non Linear Functions**

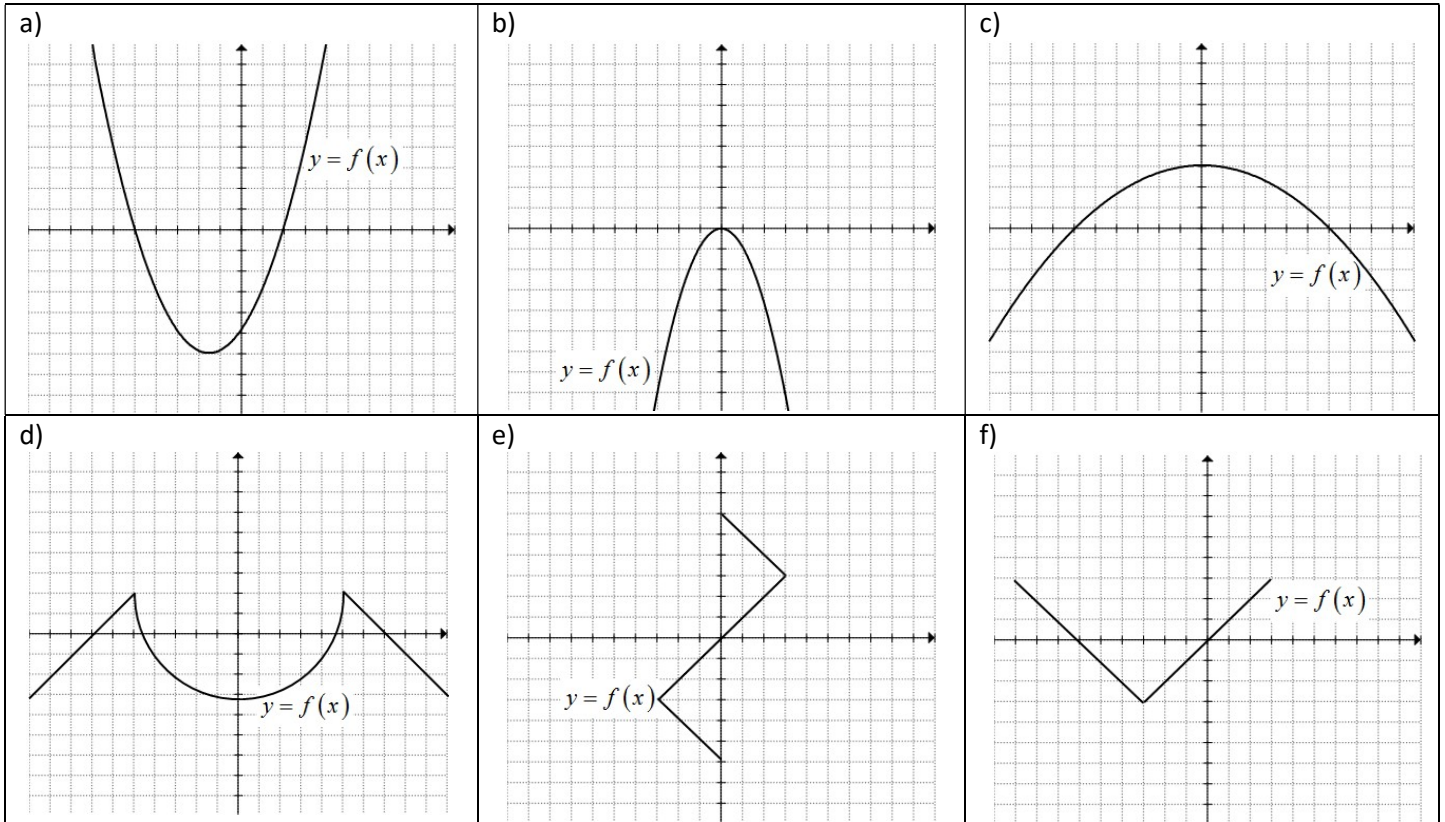
1. Indicate which of the following graphs are functions.



2. Use the space provided to make a table of values of each function and then graph it on the grid provided.

<p>Function</p> $y = x^2 - 3$ <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%;">x</th> <th style="width: 50%;">y</th> </tr> </thead> <tbody> <tr><td>-3</td><td></td></tr> <tr><td>-2</td><td></td></tr> <tr><td>-1</td><td></td></tr> <tr><td>0</td><td></td></tr> <tr><td>1</td><td></td></tr> <tr><td>2</td><td></td></tr> </tbody> </table>	x	y	-3		-2		-1		0		1		2			<p>Function</p> $y = \sqrt{x+3}$ <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%;">x</th> <th style="width: 50%;">y</th> </tr> </thead> <tbody> <tr><td>-4</td><td></td></tr> <tr><td>-3</td><td></td></tr> <tr><td>-2</td><td></td></tr> <tr><td>0</td><td></td></tr> <tr><td>1</td><td></td></tr> <tr><td>6</td><td></td></tr> </tbody> </table>	x	y	-4		-3		-2		0		1		6		
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3. Graph  $y = |f(x)|$  for each function on the same grid:



4. Given each table of values, indicate whether it is a "Quadratic", "Root", "Absolute" or Linear Function. Explain and justify your choice of answer.

a) 

x	-2	2	4	5	6
y	7	7	43	70	103

e) 

x	-3	-1	1	4	6
y	14	-2	-2	28	68

b) 

x	-3	-1	0	2	3
y	2	0	2	6	8

f) 

x	-4	-2	0	2	5
y	14	8	2	4	13

c) 

x	1	2	6	9	17
y	1	2	4	5	7

g) 

x	0	3	12	27	48
y	-4	-1	2	5	8

D)

$x$	-3	-1	0	3	5
$y$	25	9	4	1	9

h)

$x$	-4	-2	-1	3	4
$y$	31	7	1	17	31

5. Given the table of values for  $y = f(x)$ , find the following values:

$x$	$f(x)$
-3	-2
-2	-12
-1	5
0	11
1	13
2	15
3	0
4	-3

i)  $|f(0)|$

ii)  $f^{-1}(-2)$

iii)  $f^{-1}(5)$

iv)  $|f(2)|$

v)  $|f(-2)|$

vi)  $|f(4)|$

vii)  $f^{-1}(-3)$

viii)  $|f^{-1}(-3)|$

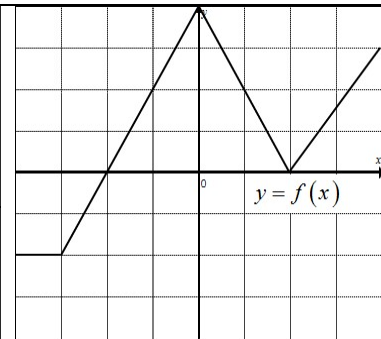
ix)  $|f^{-1}(-12)|$

x)  $f^{-1}(f(4))$

xi)  $f^{-1}(f(x))$

xii)  $f(f^{-1}(x))$

6. Given the graph of  $y = f(x)$ , find the following values:



a) $f(2)$	b) $f(-3)$	c) $ f(-3.2) $
d) $ f(4) $	e) $f^{-1}(-1)$	f) $f^{-1}(4)$
g) $f^{-1}(0)$	h) $f^{-1}(-2)$	i) $ f^{-1}(-2) $