Name **MAT 231**
Date **Homework Assignment 4**

Chapter 1.4 –FUNCTIONS

Directions: Provide complete responses to each question. Make sure to show all your work.

1. Which set of ordered pairs represents a function from A to B?

$A = \{3, 2, 4, 1\}$ and $B = \{-4, -5, 3, 2, 4\}$

a. $\{(3, -4), (2, -5), (4, -4), (3, -5)\}$

b. $\{(3, -4), (4, 4), (2, -5), (1, 3), (2, 2)\}$

c. $\{(3, 4), (1, 3), (2, 2)\}$

d. $\{(3, 2), (2, -4), (4, 3), (1, 4)\}$

e. $\{(3, -4), (2, 2), (1, 3)\}$

2. Evaluate $f(7)$ if $f(x) = 4x - 1$.

a. $f(7) = 27$

b. $f(7) = 26$

c. $f(7) = 29$

d. $f(7) = 25$

e. $f(7) = 28$

Name **MAT 231**
Date **Homework Assignment 4**

3. Evaluate the function $f(x) = \begin{cases} 6x-3, & x<-1 \\ 8, & -1 \le x \le 1 \\ x^2, & x>1 \end{cases}$ at $f\left(-\frac{1}{7}\right)$.

a. $f\left(-\frac{1}{7}\right) = -45$

b. $f\left(-\frac{1}{7}\right) = 45$

c. $f\left(-\frac{1}{7}\right) = -8$

d. $f\left(-\frac{1}{7}\right) = -49$

e. $f\left(-\frac{1}{7}\right) = 8$

Name **MAT 231**
Date **Homework Assignment 4**

4. Complete the table.

$$f(s) = \frac{|s-2|}{s-2}$$

s	0	4	$\frac{9}{2}$	$\frac{13}{2}$	7
$f(s)$					

a.

s	0	4	$\frac{9}{2}$	$\frac{13}{2}$	7
$f(s)$	–1	1	1	1	1

b.

s	0	4	$\frac{9}{2}$	$\frac{13}{2}$	7
$f(s)$	–1	1	1	3	1

c.

s	0	4	$\frac{9}{2}$	$\frac{13}{2}$	7
$f(s)$	–1	1	3	1	1

d.

s	0	4	$\frac{9}{2}$	$\frac{13}{2}$	7
$f(s)$	1	1	3	1	1

e.

s	0	4	$\frac{9}{2}$	$\frac{13}{2}$	7
$f(s)$	–1	3	1	1	1

5. Find all real values of x such that $f(x) = 0$.

$$f(x) = \frac{-9x + 8}{5}$$

a. $x = \frac{8}{9}$

b. $x = \frac{8}{45}$

c. $x = \pm\frac{8}{9}$

d. $x = -\frac{8}{9}$

e. $x = \pm\frac{8}{45}$

6. Does the table describe a function?

Input value	–5	–3	0	3	5
Output value	–3	–3	–3	–3	–3

a. No

b. Yes