

Assignment-1

Student Name:

Course Title: Calculus1

Due Date: Next week in class.

Course Code: Math-211.

Answer the following questions.

(Q1.) Choose the correct answer.

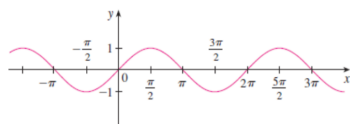
(1) The range of the set $T = \{(-1, 2), (1, 1), (0, 2), (2, 3)\}$ is

- (A) $\{-1, 1, 0, 2\}$ (B) No range exists (C) $\{2, 1, 2, 3\}$ (D) $\{1, 2, 3\}$

(2) If $f(x) = \sqrt{10 + x}$. Find $f(6) =$

- (A) 16 (B) 6 (C) 10 (D) 4

(3) The graph of the function



is

- (A) $\cos x$ (B) $\sin x$ (C) $\tan x$ (D) $\sec x$

(4) The degree of the polynomial is $x^3 + 4x^2 + 6x + 3$

- (A) 2 (B) 1 (C) 3 (D) 0

(Q2.) Put true or false of the following problems.

1. If $T = \{(-1, 2), (1, 1), (0, 2), (1, 3)\}$ the set is specify as a Function ().

2. The domain of the function $f(x) = x^2 - 6x + 1$ is $(-\infty, \infty)$ ().

3. The domain of the function $f(x) = \frac{1}{\sqrt{x-1}}$ is $[1, \infty)$ ().

(Q3.) Sketch the graph of the following functions.

1. $f(x) = (1 - x)^2 + 3$

2. $g(x) = x - 1$

3. $h(x) = (x - 1)^3 + 3$

4. $k(x) = 3^x$

5. $l(x) = \sqrt{x + 1}$

6. $z(x) = x^2 + 2x + 2$

(Q4.) Find the domain of the following functions.

1. $f(x) = 3x^2 - 4x + 10$

2. $g(x) = \sqrt{x - 1}$

3. $h(x) = \frac{3}{\sqrt{x + 4}}$

4. $k(x) = \frac{2x}{2x^2 - 4x}$

5. $l(x) = \sqrt{4 - x}$

6. $z(x) = \sqrt{x + 1}$

7. $m(x) = \frac{2}{x^2 - 2}$

(Q5.) Find the composition and then find the domain of the following functions.

Let $f(x) = x^2 + 5$, $g(x) = x + 3$, and $h(x) = \frac{1}{\sqrt{1 - x}}$.

1. $(f \circ g)(x) =$

2. $(g \circ f)(x) =$

3. $(f \circ h)(x) =$

4. $(f \circ f)(x) =$

GOOD LUCK
