

# 7 Lecture - MTH101

## Important Mcqs

1. What is the composition of two functions  $f$  and  $g$ ?

- A.  $f(x) + g(x)$
- B.  $f(x)g(x)$
- C.  $f(g(x))$
- D.  $g(f(x))$

**Solution: C**

2. What is the domain of the function  $f(x) = 1/x$ ?

- A. all real numbers except 0
- B. all real numbers
- C. all positive real numbers
- D. all negative real numbers

**Solution: A**

3. Which of the following is an example of a polynomial function?

- A.  $f(x) = 1/x$
- B.  $f(x) = x^2 + 3x - 5$
- C.  $f(x) = ?x$
- D.  $f(x) = e^x$

**Solution: B**

4. What is the range of the function  $f(x) = \sin(x)$ ?

- A.  $[-1, 1]$
- B.  $(-?, ?)$
- C.  $[0, 1]$
- D.  $[-?/2, ?/2]$

**Solution: A**

5. What is the inverse of the function  $f(x) = 2x - 3$ ?

- A.  $f^{-1}(x) = x/2 + 3/2$
- B.  $f^{-1}(x) = 2x + 3$
- C.  $f^{-1}(x) = (x - 3)/2$
- D.  $f^{-1}(x) = 3 - x/2$

**Solution: C**

6. Which of the following is an example of an odd function?

- A.  $f(x) = x^2$
- B.  $f(x) = x^3$
- C.  $f(x) = \sin(x)$
- D.  $f(x) = \cos(x)$

**Solution: B**

7. What is the difference between the domain and range of a function?

- A. There is no difference.
- B. The domain is the set of all input values, while the range is the set of all output values.
- C. The domain is the set of all output values, while the range is the set of all input values.
- D. The domain and range are the same things.

**Solution: B**

8. What is the equation of the line that passes through points (1, 2) and (3, 4)?

- A.  $y = 2x - 1$
- B.  $y = x + 1$
- C.  $y = 2x + 1$
- D.  $y = x - 1$

**Solution: D**

9. What is the composite function of  $f(x) = x^2$  and  $g(x) = x + 1$ ?

- A.  $f(g(x)) = (x + 1)^2$
- B.  $f(g(x)) = x^2 + 1$
- C.  $g(f(x)) = x^2 + 1$
- D.  $g(f(x)) = (x + 1)^2$

**Solution: A**

10. What is the degree of the polynomial function  $f(x) = 3x^4 + 2x^3 - 5x^2 + 7$ ?

- A. 0
- B. 2
- C. 3
- D. 4

**Solution: D**