

# 9 Lecture - MTH101

## Important Mcqs

1. What is the limit of  $f(x)$  as  $x$  approaches 3 for the function  $f(x) = x + 2$ ?
- a) 3
  - b) 5
  - c) 6
  - d) None of the above

**Solution: b) 5**

2. What is the limit of  $f(x)$  as  $x$  approaches infinity for the function  $f(x) = 1/x$ ?
- a) 0
  - b) 1
  - c) infinity
  - d) None of the above

**Solution: a) 0**

3. What is the limit of  $f(x)$  as  $x$  approaches 2 for the function  $f(x) = (x-2)/(x+4)$ ?
- a) 2
  - b) 0
  - c) 1
  - d) None of the above

**Solution: b) 0**

4. What is the limit of  $f(x)$  as  $x$  approaches -3 for the function  $f(x) = |x+3|$ ?
- a) -3
  - b) 0
  - c) 3
  - d) None of the above

**Solution: c) 3**

5. What is the limit of  $f(x)$  as  $x$  approaches 0 for the function  $f(x) = \sin(x)/x$ ?
- a) 1
  - b) 0
  - c) -1
  - d) None of the above

**Solution: a) 1**

6. What is the limit of  $f(x)$  as  $x$  approaches 4 for the function  $f(x) = (x-4)/(x^2-16)$ ?
- a) 1/12
  - b) 1/4

- c)  $1/8$
- d) None of the above

**Solution: b)  $1/4$**

7. What is the limit of  $f(x)$  as  $x$  approaches  $-\infty$  for the function  $f(x) = e^x$ ?
- a) 0
  - b) -1
  - c) infinity
  - d) None of the above

**Solution: a) 0**

8. What is the limit of  $f(x)$  as  $x$  approaches 1 for the function  $f(x) = (x-1)/(x^2-1)$ ?
- a)  $-1/2$
  - b)  $1/2$
  - c) 1
  - d) None of the above

**Solution: b)  $1/2$**

9. What is the limit of  $f(x)$  as  $x$  approaches 2 for the function  $f(x) = (x^2-4)/(x-2)$ ?
- a) 2
  - b) 0
  - c) 4
  - d) None of the above

**Solution: c) 4**

10. What is the limit of  $f(x)$  as  $x$  approaches 0 for the function  $f(x) = (1-\cos(x))/x^2$ ?
- a) 0
  - b)  $1/2$
  - c) infinity
  - d) None of the above

**Solution: b)  $1/2$**