3. TRIGONOMETRY

1. What is the value of sin (0°)?

a) 0

b) 1

c) -1

d) Undefined

Answer: a) 0

2. What is the value of cos(90°)?

a) 0

b) 1

c) -1

d) Undefined

Answer: a) 0

3. What is the value of tan(45°)?

a) 0

b) 1

c) -1

d) Undefined

Answer: b) 1

4. What is the value of cot(30°)?

a) 0

b) 1

c) -1

d) Undefined

Answer: b) 1

5. What is the value of sec(60°)?

a) 0

b) 1

c) -1

d) Undefined

Answer: b) 1

6. What is the value of csc(45°)?

a) 0

b) 1

c) -1

d) Undefined

Answer: b) 1

7. What is the formula for sin(A + B)?

a) sin(A) + sin(B)

b) sin(A) - sin(B)

c) sin(A)cos(B) + cos(A)sin(B)

d) sin(A)cos(B) - cos(A)sin(B)

Answer: c) sin(A)cos(B) + cos(A)sin(B)

8. What is the formula for cos(A + B)?

a) cos(A) + cos(B) b) cos(A) - cos(B)

c) cos(A)cos(B) - sin(A)sin(B)

d) cos(A)cos(B) + sin(A)sin(B)

Answer: d) cos(A)cos(B) + sin(A)sin(B)

9. What is the formula for tan(A + B)?

a) tan(A) + tan(B)

b) tan(A) - tan(B

c) (tan(A) + tan(B)) / (1 - tan(A)tan(B))

d) (tan(A) - tan(B)) / (1 + tan(A)tan(B))

Answer: d) (tan(A) - tan(B)) / (1 + tan(A)tan(B))

10. What is the formula for sin(2A)?

a) 2sin(A)cos(A)

b) sin(A) + sin(A)

c) sin(A)cos(A) - cos(A)sin(A)

d) 2sin(A)sin(A)

Answer: a) 2sin(A)cos(A)

11. What is the formula for cos(2A)?

a) 2cos(A)sin(A)

b) cos(A) + cos(A)

c) cos(A)cos(A) - sin(A)sin(A)

d) 2cos(A)cos(A)

Answer: c) cos(A)cos(A) - sin(A)sin(A)

12. What is the formula for tan(2A)?

a) 2tan(A)

b) tan(A) + tan(A)

c) (2tan(A)) / (1 - tan(A)tan(A))

d) (tan(A) + tan(A)) / (1 - tan(A)tan(A))

Answer: c) (2tan(A)) / (1 - tan(A)tan(A))

13. What is the formula for sin(A - B)?

a) sin(A) + sin(B)

b) sin(A) - sin(B)

c) sin(A)cos(B) - cos(A)sin(B)

d) sin(A)cos(B) + cos(A)sin(B)

Answer: c) sin(A)cos(B) - cos(A)sin(B)

14. What is the formula for cos(A - B)?

a) cos(A) + cos(B)

b) cos(A) - cos(B)

c) cos(A)cos(B) + sin(A)sin(B)

d) cos(A)cos(B) - sin(A)sin(B)

Answer: d) cos(A)cos(B) - sin(A)sin(B)

15. What is the formula for tan(A - B)?

a) tan(A) + tan(B)

b) tan(A) - tan(B)

c) (tan(A) - tan(B)) / (1 + tan(A)tan(B))

d) (tan(A) + tan(B)) / (1 - tan(A)tan(B))

Answer: c) (tan(A) - tan(B)) / (1 + tan(A)tan(B))

16. What is the formula for sin(2A) in terms of sin(A)?

a) 2sin(A)

b) 2sin(A)cos(A)

c) sin(A)cos(A) - cos(A)sin(A)

d) sin(A)sin(A) - cos(A)cos(A)

Answer: b) 2sin(A)cos(A)

17. What is the formula for cos(2A) in terms of cos(A)?

a) 2cos(A)

b) 2cos(A)sin(A)

c) cos(A)cos(A) - sin(A)sin(A)

d) cos(A)cos(A) - 2sin(A)sin(A)

Answer: c) cos(A)cos(A) - sin(A)sin(A)

18. What is the formula for tan(2A) in terms of tan(A)?

a) 2tan(A)

b) tan(A) + tan(A)

c) (2tan(A)) / (1 - tan(A)tan(A))

d) (tan(A) + tan(A)) / (1 - tan(A)tan(A))

Answer: a) 2tan(A)

19. What is the period of the function y = sin(x)?

a) 180°

b) 360°

c) 90°

d) 45°

Answer: b) 360°

20. What is the period of the function y = cos(x)?

a) 180°

b) 360°

c) 90°

d) 45°

Answer: b) 360°

21. What is the period of the function y = tan(x)?

a) 180°

b) 360°

c) 90°

d) 45°

Answer: a) 180°

22. What is the period of the function y = csc(x)?

a) 180°

b) 360°

c) 90°

d) 45°

Answer: a) 180°

23. What is the period of the function y = sec(x)?

a) 180°

b) 360°

c) 90°

d) 45° Answer: b) 360°

24. What is the period of the function y = cot(x)?

a) 180°

b) 360°

c) 90°

d) 45°

Answer: a) 180°

25. What is the range of the function y = sin(x)?

a) [-1, 1]

b) (-∞, ∞)

c) [0, ∞)

d) (-1, 1)

Answer: a) [-1, 1]

26. What is the range of the function y = cos(x)?

a) [-1, 1]

b) (-∞, ∞)

c) [0, ∞)

d) (-1, 1)

Answer: a) [-1, 1]

27. What is the range of the function y = tan(x)?

a) [-1, 1]

b) (-∞, ∞)

c) [0, ∞)

d) (-1, 1)

Answer: b) (-∞, ∞)

28. What is the range of the function y = csc(x)?

a) [-1, 1]

b) (-∞, ∞)

c) [0, ∞)

d) (-1, 1)

Answer: b) (-∞, ∞)

29. What is the range of the function y = sec(x)?

a) [-1, 1]

b) (-∞, ∞)

c) [0, ∞)

d) (-1, 1)

Answer: c) [0, ∞)

30. What is the range of the function y = cot(x)?

a) [-1, 1]

b) (-∞, ∞)

c) [0, ∞)

d) (-1, 1)

Answer: b) (-∞, ∞)

31. What is the value of sin(30°)?

a) 1/2

b) √2/2

c) √3/2

d) 1

Answer: a) 1/2

32. What is the value of cos(60°)?

a) 1/2

b) √2/2

c) √3/2

d) 1

Answer: a) 1/2

33. What is the value of tan(45°)?

a) 1

b) √2

c) √3

d) 0

Answer: b) √2

34. What is the value of cot(60°)?

a) 1

b) √2

c) √3

d) 0

Answer: c) √3

35. What is the value of sec(45°)?

a) 1

b) √2

c) √3

d) 0

Answer: b) √2

36. What is the value of csc(30°)?

a) 1

b) √2

c) √3

d) 0

Answer: c) √3

37. What is the value of sin(A) if cos(A) = 1/2?

a) 1/2

b) √2/2

c) √3/2

d) 1

Answer: c) √3/2

38. What is the value of cos(A) if sin(A) = 3/5?

a) 1/2

b) √2/2

c) √3/2

d) 4/5

Answer: a) 1/2

39. What is the value of tan(A) if cos(A) = 3/4?

a) 1/2

b) √2/2

c) √3/2

d) 4/3

Answer: d) 4/3

40. What is the value of cot(A) if sin(A) = 4/5?

a) 1/2

b) √2/2

c) √3/2

d) 5/4

Answer: d) 5/4

41. What is the value of sec(A) if cos(A) = 3/5?

a) 1/2

b) √2/2

c) 5/3

d) 4/5

Answer: c) 5/3

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42. What is the value of csc(A) if sin(A) = 3/4?

a) 1/2

b) 4/3

c) 5/3

d) 4/5

Answer: d) 4/5

43. What is the value of sin(A + B) if sin(A) = 1/2 and sin(B) = √3/2?

a) 1/2

b) √2/2

c) √3/2

d) 1

Answer: c) √3/2

44. What is the value of cos(A + B) if cos(A) = 1/2 and cos(B) = √3/2?

a) 1/2

b) √2/2

c) √3/2

d) 1

Answer: c) √3/2

45. What is the value of tan(A + B) if tan(A) = 1 and tan(B) = -1?

a) 1

b) √2

c) -1

d) 0

Answer: c) -1

46. What is the value of sin(2A) if sin(A) = 3/5?

a) 24/25

b) 4/5

c) 7/25

d) 5/4

Answer: a) 24/25

47. What is the value of cos(2A) if cos(A) = 4/5?

a) 16/25

b) 9/25

c) 3/5

d) 4/3

Answer: a) 16/25

48. What is the value of tan(2A) if tan(A) = 3/4?

a) 15/7

b) 7/24

c) 24/7

d) 4/3

Answer: c) 24/7

49. What is the value of sin(A - B) if sin(A) = 1/2 and sin(B) = √3/2?

a) 1/2

b) √2/2

c) √3/2

d) 1

Answer: c) √3/2

50. What is the value of cos(A - B) if cos(A) = 1/2 and cos(B) = √3/2?

a) 1/2

b) √2/2

c) √3/2

d) 1

Answer: b) √2/2