Trigonometric Functions & Their Graphs

1. Range of the sine function is _____?

   a) $\{x \mid -1 < x > 1\}$
   b) $\{x \mid -1 < x < 1\}$
   c) $\{x \mid 0 \ x > 1\}$
   d) $\{x < 1\}$
   e) None of these

2. The domain of sinx is

   a) $[-1, 1]$
   b) R
   c) $R - \left\{x \mid x = (2n+1)\dfrac{\pi}{2}, n \in Z\right\}$
   d) $R - \{x \mid x = n\pi, n \in Z\}$
   e) $R - \{x \mid -1 < x < 1\}$

3. Range of the cosine function is = _____?

   a) $\{x \mid -1 < x > 1\}$
   b) $\{x \mid -1 < x < 1\}$
   c) $\{x \mid 0 \ x > 1\}$
   d) $\{x > 1\}$
   e) None of these

4. The domain of the cosx is

   a) $[-1, 1]$
   b) R
   c) $R - \left\{x \mid x = (2n+1)\dfrac{\pi}{2}, n \in Z\right\}$
   d) $R - \{x \mid x = n\pi, n \in Z\}$
   e) $R - \{x \mid -1 < x < 1\}$

5. The domain of tanx is

   a) $[-1, 1]$
   b) R
   c) $R - \left\{x \mid x = (2n+1)\dfrac{\pi}{2}, n \in Z\right\}$

   d) $R - \{x \mid x = n\pi, n \in Z\}$
   e) $R - \{x \mid -1 < x < 1\}$

6. The domain of cotx is

   a) $[-1, 1]$
   R
   $R - \left\{x \mid x = (2n+1)\dfrac{\pi}{2}, n \in Z\right\}$
   $R - \{x \mid x = n\pi, n \in Z\}$
   $R - \{x \mid -1 < x < 1\}$

7. The domain of secx is

   a) $[-1, 1]$
   b) R
   c) $R - \left\{x \mid x = (2n+1)\dfrac{\pi}{2}, n \in Z\right\}$
   d) $R - \{x \mid x = n\pi, n \in Z\}$
   e) $R - \{x \mid -1 < x < 1\}$

8. The domain of cscx is

   a) $[-1, 1]$
   b) R
   c) $R - \left\{x \mid x = (2n+1)\dfrac{\pi}{2}, n \in Z\right\}$
   d) $R - \{x \mid x = n\pi, n \in Z\}$
   e) $R - \{x \mid -1 < x < 1\}$

9. The range of sinx is

   a) $[-1, 1]$
   b) R
   c) $R - \left\{x \mid x = (2n+1)\dfrac{\pi}{2}, n \in Z\right\}$
   d) $R - \{x \mid x = n\pi, n \in Z\}$
   e) $R - \{x \mid -1 < x < 1\}$

10. The range of cosx is

    a) [-1, 1]
    b) R
    c) $R - \left\{ x \big| x = (2n+1)\dfrac{\pi}{2}, n \in Z \right\}$
    d) $R - \left\{ x \big| x = n\pi, n \in Z \right\}$
    e) $R - \left\{ x \big| -1 < x < 1 \right\}$

11. The range of tanx is

    a) [-1, 1]
    b) R
    c) $R - \left\{ x \big| x = (2n+1)\dfrac{\pi}{2}, n \in Z \right\}$
    d) $R - \left\{ x \big| x = n\pi, n \in Z \right\}$
    e) $R - \left\{ x \big| -1 < x < 1 \right\}$

12. The range of cotx is

    a) [-1, 1]
    b) R
    c) $R - \left\{ x \big| x = (2n+1)\dfrac{\pi}{2}, n \in Z \right\}$
    d) $R - \left\{ x \big| x = n\pi, n \in Z \right\}$
    e) $R - \left\{ x \big| -1 < x < 1 \right\}$

13. The range of secx is

    a) [-1, 1]
    b) R
    c) $R - \left\{ x \big| x = (2n+1)\dfrac{\pi}{2}, n \in Z \right\}$
    d) $R - \left\{ x \big| x = n\pi, n \in Z \right\}$
    e) $R - \left\{ x \big| -1 < x < 1 \right\}$

14. The range of csc x is

    a) [-1, 1]
    b) R
    c) $R - \left\{ x \big| x = (2n+1)\dfrac{\pi}{2}, n \in Z \right\}$
    d) $R - \left\{ x \big| x = n\pi, n \in Z \right\}$
    e) $R - \left\{ x \big| -1 < x < 1 \right\}$

15. A function f(x) is said to be the periodic function if, for all x in the domain of f, here exists a smallest positive number p such that f(x + p) =

    a) f(p)
    b) f(x)
    c) 0
    d) P
    e) x + p

16. If, for all x in the domain of f, there exists a smallest positive number p such that f(x + p) = f(x), then p is the

    a) period of f
    b) period of 2f'
    c) period of 3f
    d) period of 4f
    e) none of these

17. The period of sinx is

    a) $\dfrac{\pi}{3}$
    b) $\dfrac{\pi}{2}$
    c) $\dfrac{2\pi}{3}$
    d) π
    e) 2π

18. The period of cosx is

    a) $\dfrac{\pi}{3}$
    b) $\dfrac{\pi}{2}$
    c) $\dfrac{2\pi}{3}$
    d) π
    e) 2π

19. The period of tanx is
    a) $\dfrac{\pi}{3}$
    b) $\dfrac{\pi}{2}$
    c) $\dfrac{2\pi}{3}$

d) π

e) 2π

20.   The period of cotx is

a) $\dfrac{\pi}{3}$

b) $\dfrac{\pi}{2}$

c) $\dfrac{2\pi}{3}$

d) π

e) 2π

21.   The period of sec x is

a) $\dfrac{\pi}{3}$

b) $\dfrac{\pi}{2}$

c) $\dfrac{2\pi}{3}$

d) π

e) 2π

22.   The period of cosec x is

a) $\dfrac{\pi}{3}$

b) $\dfrac{\pi}{2}$

c) $\dfrac{2\pi}{3}$

d) π

e) 2π

23.   The period of sin2x is

a) $\dfrac{\pi}{3}$

b) $\dfrac{\pi}{2}$

c) $\dfrac{2\pi}{3}$

d) π

e) 2π

24.   The period of cos2x is

a) $\dfrac{\pi}{3}$

b) $\dfrac{\pi}{2}$

c) $\dfrac{2\pi}{3}$

d) π

e) 2π

25.   The period of tan 2x is

a) $\dfrac{\pi}{3}$

b) $\dfrac{\pi}{2}$

c) $\dfrac{2\pi}{3}$

d) π

e) 2π

26.   The period of cot2x is

a) $\dfrac{\pi}{3}$

b) $\dfrac{\pi}{2}$

c) $\dfrac{2\pi}{3}$

d) π

e) 2π

27.   The period of sec2x is

a) $\dfrac{\pi}{3}$

b) $\dfrac{\pi}{2}$

c) $\dfrac{2\pi}{3}$

d) π

e) 2π

28.   The period of cosec 2x is

a) $\dfrac{\pi}{3}$

b) $\dfrac{\pi}{2}$

c) $\dfrac{2\pi}{3}$

d) π

e) 2π

29. The period of sin3x is

a) $\dfrac{\pi}{3}$

b) $\dfrac{\pi}{2}$

c) $\dfrac{2\pi}{3}$

d) π

e) 2π

30. The period of cos7x is

a) $\dfrac{\pi}{3}$

b) $\dfrac{\pi}{2}$

c) $\dfrac{2\pi}{7}$

d) π

e) 2π

31. The period of $\cos\dfrac{x}{3}$ is

a) π

b) 2π

c) 3π

d) 4π

e) 6π

32. The period of $\tan\dfrac{x}{3}$ is

a) π

b) 2π

c) 3π

d) 4π

e) 6π

33. The period of $\cot\dfrac{x}{3}$ is

a) π

b) 2π

c) 3π

d) 4π

e) 6π

34. The period of $\sec\dfrac{x}{3}$ is

a) π

b) 2π

c) 3π

d) 4π

e) 6π

35. The period of cot3x is

a) $\dfrac{\pi}{3}$

b) $\dfrac{\pi}{2}$

c) $\dfrac{2\pi}{3}$

d) π

e) 2π

36. The period of tan 3x is

a) $\dfrac{\pi}{3}$

b) $\dfrac{\pi}{2}$

c) $\dfrac{2\pi}{3}$

d) π

e) 2π

37. The period of $3\tan\dfrac{x}{3}$ is

a) π

b) 2π

c) 3π

d) 4π

e) 6π

38. The period of $3\sec\dfrac{x}{3}$ is

a) π

b) 2π

c) 3π

d) 4π

e) 6π

39.   The period of $15\csc \dfrac{x}{3}$ is

    a) π
    b) 2π
    c) 3π
    d) 4π
    e) 6π

40.   the period of $15\csc \dfrac{x}{5}$ is

    a) 15π
    b) 10π
    c) 5π
    d) 2π
    e) π

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Written by NAUMAN IDREES
(nomi255@yahoo.com)
FSc (Session: 2007-09)
ICMS College System Hayatabad, Peshawar