Trigonometric Function Properties and Identities

Mathematics · Practice Test · 10 Questions

1. What is the period of the function f(x) = sin(4x)?

A) ?/2
B) ?
C) 2?
D) 4?

2. Find the amplitude of the function g(x) = 3cos(x) + 5.

A) 3
B) 5
C) 8
D) 2

3. Simplify the expression sin(?) + cos(?) + tan(?) given that sin(?) + cos(?) = 1.

A) sec(?)
B) csc(?)
C) 1
D) tan(?)

4. If sec(?) = 2 and 270° < ? < 360°, find ?.

A) 300°
B) 330°
C) 270°
D) 360°

5. Solve for x in the interval [0, 2?]: 2sin(x) > 1.

A) (?/6, 5?/6)
B) [0, ?/6) U (5?/6, 2?]
C) (0, ?/6) U (5?/6, 2?)
D) [?/6, 5?/6]

6. What is the domain of the function s(x) = tan(x)?

A) x != n?, n ? Z
B) x != ?/2 + n?, n ? Z
C) x != 2n?, n ? Z
D) x ? R

7. Find the exact value of sin(210°).

A) -1/2
B) 1/2
C) -?3/2
D) ?3/2

8. What is the range of the function h(x) = 2sin(x) - 3?

A) [-5, -1]
B) [-1, 1]
C) [-3, 2]
D) [-2, 2]

9. Which of the following is equivalent to cos(-x)?

A) cos(x)
B) sin(x)
C) -cos(x)
D) -sin(x)

10. If cos(?) = 1/2 and 0° < ? < 90°, what is the value of sec(?)?

A) 2
B) 1/2
C) ?3/2
D) 2/?3