MAC1114 Trigonometry
5.4 Trigonometric Functions of Real Numbers; Periodic Functions. Practice 04.

The point P(x, y) on the unit circle that corresponds to a real number t is given. Find the values of the indicated trigonometric function at t.

1) $\left(\frac{5}{6}, \frac{\sqrt{11}}{6}\right)$ Find tan t. 1) _____

A) $\frac{6}{5}$ B) $\frac{\sqrt{11}}{5}$ C) $\frac{\sqrt{11}}{6}$ D) $\frac{5\sqrt{11}}{11}$

Use the unit circle to find the value of the trigonometric function.

2) $\cot \frac{\pi}{3}$ 2) _____

A) $\frac{\sqrt{3}}{3}$ B) $\frac{1}{2}$ C) $\sqrt{3}$ D) 1

3) $\sin \frac{3\pi}{2}$ 3) _____

A) undefined B) 0 C) 1 D) -1

Solve the problem.

4) What is the domain of the sine function? 4) _____

A) all real numbers from -1 to 1, inclusive

B) all real numbers, except odd multiples of $\frac{\pi}{2}$ (90°)

C) all real numbers, except integral multiples of π (180°)

D) all real numbers

Use even and odd properties of the trigonometric functions to find the exact value of the expression.

5) $\sin\left(-\frac{\pi}{4}\right)$ 5) _____

A) $-\frac{\sqrt{3}}{2}$ B) $-\frac{\sqrt{2}}{2}$ C) $\frac{\sqrt{3}}{2}$ D) $\frac{\sqrt{2}}{2}$

6) $\sec(-\pi)$ 6) _____

A) -1 B) undefined C) 1 D) 0

Use periodic properties of the trigonometric functions to find the exact value of the expression.

7) $\cos \frac{16\pi}{3}$ 7) _____

A) $-\frac{\sqrt{3}}{2}$ B) $\frac{\sqrt{3}}{2}$ C) $-\frac{1}{2}$ D) $\frac{1}{2}$

8) $\tan \frac{21\pi}{4}$ 8) _____

A) $\sqrt{3}$ B) 1 C) -1 D) $\frac{\sqrt{3}}{3}$

Solve the problem.

9) The mean air temperature T, in F°, at Fairbanks, Alaska, on the nth day of the year, $1 \le n \le 365$, is approximated by: $T = 37 \sin(\frac{2\pi}{365}(n - 101)) + 25$. Find the temperature at Fairbanks on day 100, to the nearest tenth. 9) _____

A) 21.4° F B) 19.9° F C) 36.6° F D) 24.4° F

Answer Key
Testname: PRACTICE04

1) B
2) A
3) D
4) D
5) B
6) A
7) C
8) B
9) D