Quiz: Trig Functions

Name Solution

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

Simplify the expression.

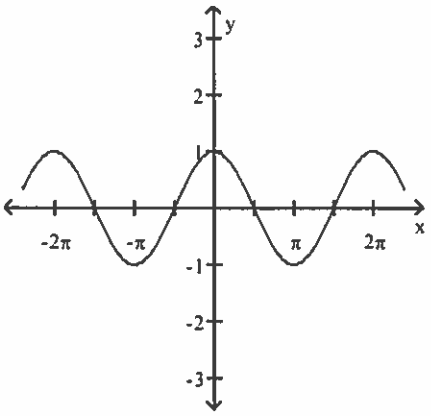
1) $\frac{\cos\theta}{1+\sin\theta} + \tan\theta$ 1) A

A) $\sec\theta$ B) 1 C) $\sin^2\theta$ D) $\cos\theta + \sin\theta$

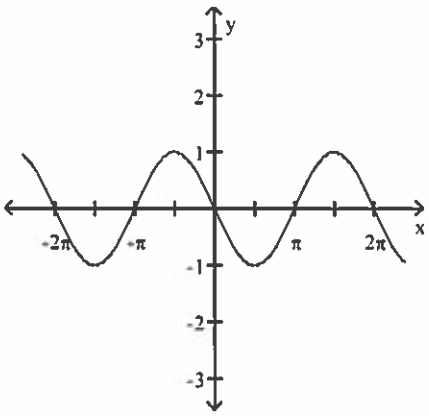
Match the given function to its graph.

2) 1) $y = \sin x$ 2) $y = \cos x$ 2) B
3) $y = -\sin x$ 4) $y = -\cos x$

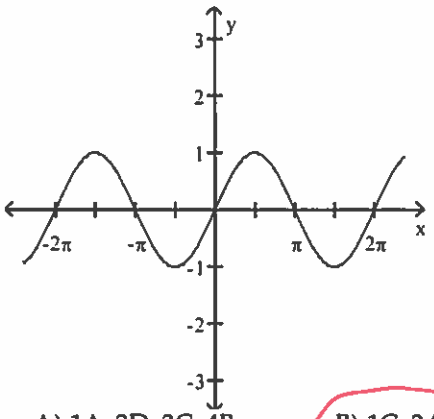
A



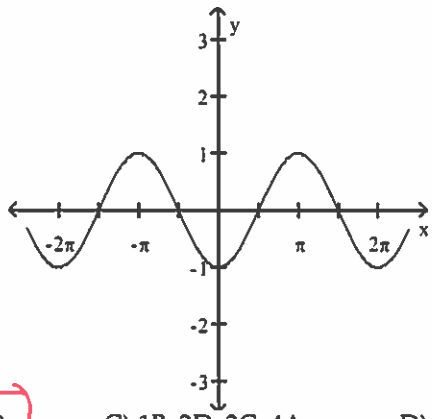
B



C



D



A) 1A, 2D, 3C, 4B B) 1C, 2A, 3B, 4D C) 1B, 2D, 3C, 4A D) 1A, 2B, 3C, 4D

Find the reference angle of the given angle.

3) $-420°$ 3) C

A) $120°$ B) $30°$ C) $60°$ D) $150°$

$-420 + 360 = -60$

Write the trigonometric expression as an algebraic expression in u.

4) $\sin(\tan^{-1} u)$

A) $\frac{1}{\sqrt{u^2+1}}$ B) $\frac{u}{\sqrt{u^2-1}}$ C) $\frac{u}{\sqrt{u^2+1}}$ D) $u\sqrt{u^2+1}$

4) C

Name the quadrant in which the angle θ lies.

5) $\cot\theta > 0$, $\sin\theta < 0$

A) I B) II C) III D) IV

QIII

5) C

Find the exact value of the expression.

6) $\cot\left[\sin^{-1}\frac{\sqrt{2}}{2}\right]$ = $\pi/4$

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

6) A

7) $\sin(\tan^{-1} 2)$

A) $5\sqrt{2}$ B) $\frac{5\sqrt{2}}{2}$ C) $2\sqrt{5}$ D) $\frac{2\sqrt{5}}{5}$

7) D

Find the exact value of the indicated trigonometric function of θ.

8) $\sin\theta = \frac{1}{2}$, $\sec\theta < 0$ Find $\cos\theta$ and $\tan\theta$.

QII

A) $\cos\theta = -\frac{\sqrt{3}}{2}$, $\tan\theta = \frac{\sqrt{3}}{3}$

B) $\cos\theta = -\sqrt{3}$, $\tan\theta = -\frac{10\sqrt{3}}{3}$

C) $\cos\theta = -\frac{\sqrt{3}}{2}$, $\tan\theta = -\frac{\sqrt{3}}{3}$

D) $\cos\theta = \sqrt{\frac{3}{2}}$, $\tan\theta = \frac{\sqrt{3}}{3}$

8) C

Solve the problem.

9) For what numbers θ is $f(\theta) = \sec\theta$ not defined?

A) odd multiples of π (180°)

B) odd multiples of $\frac{\pi}{2}$ (90°)

C) integral multiples of π (180°)

D) all real numbers

9) B

Without graphing the function, determine its amplitude or period as requested.

10) $y = \frac{3}{4}\sin\left(-\frac{4\pi}{7}x\right)$ Find the period.

A) $\frac{3\pi}{2}$ B) $\frac{7}{2}$ C) $\frac{8\pi}{7}$ D) $\frac{2}{3}$

10) B

$\frac{2\pi}{\frac{4\pi}{7}} = \frac{2\pi}{1}\cdot\frac{7}{4\pi} = \frac{7}{2}$

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