

In the problem,  $t$  is a real number and  $P = (x, y)$  is the point on the unit circle that corresponds to  $t$ . Find the exact value of the indicated trigonometric function of  $t$ .

1)  $(\frac{4}{9}, \frac{\sqrt{65}}{9})$  Find  $\tan t$ . 1) \_\_\_\_\_

A)  $\frac{9}{4}$

B)  $\frac{4\sqrt{65}}{65}$

C)  $\frac{\sqrt{65}}{4}$

D)  $\frac{\sqrt{65}}{9}$

2)  $(-\frac{\sqrt{65}}{9}, \frac{4}{9})$  Find  $\cos t$ . 2) \_\_\_\_\_

A)  $\frac{4}{9}$

B)  $-\frac{9\sqrt{65}}{65}$

C)  $-\frac{\sqrt{65}}{9}$

D)  $-\frac{\sqrt{65}}{4}$

Find the exact value. Do not use a calculator.

3)  $\tan 0$  3) \_\_\_\_\_

A) 0

B)  $\frac{\sqrt{2}}{2}$

C) 1

D) undefined

4)  $\sin(-\frac{\pi}{2})$  4) \_\_\_\_\_

A) 1

B) 0

C) -1

D) undefined

Find the exact value of the expression if  $\theta = 45^\circ$ . Do not use a calculator.

5)  $g(\theta) = \sin \theta$  Find  $[g(\theta)]^2$ . 5) \_\_\_\_\_

A)  $-\frac{\sqrt{2}}{2}$

B) 2

C)  $\frac{1}{2}$

D)  $\sqrt{2}$

6)  $f(\theta) = \cos \theta$  Find  $3f(\theta)$ . 6) \_\_\_\_\_

A)  $-\frac{\sqrt{2}}{2}$

B)  $-\frac{3\sqrt{2}}{2}$

C)  $\frac{\sqrt{2}}{2}$

D)  $\frac{3\sqrt{2}}{2}$

Find the exact value of the expression. Do not use a calculator.

7)  $\cot 60^\circ - \cos 45^\circ$  7) \_\_\_\_\_

A)  $\frac{2 - \sqrt{3}}{2}$

B)  $\frac{2 - \sqrt{2}}{2}$

C)  $\frac{2\sqrt{3} - 3\sqrt{2}}{6}$

D)  $\frac{2\sqrt{2} - 3\sqrt{3}}{6}$

Find the exact value of the expression if  $\theta = 30^\circ$ . Do not use a calculator.

8)  $g(\theta) = \cos \theta$  Find  $g(2\theta)$ . 8) \_\_\_\_\_

A) 1

B)  $\frac{\sqrt{3}}{2}$

C)  $\sqrt{3}$

D)  $\frac{1}{2}$

Find the exact value. Do not use a calculator.

9)  $\sec \frac{21\pi}{4}$

9) \_\_\_\_\_

A) -2

B)  $-\sqrt{2}$

C)  $-\frac{2\sqrt{3}}{3}$

D)  $\frac{\sqrt{2}}{2}$

Find the exact value of the expression. Do not use a calculator.

10)  $\cos \frac{\pi}{3} + \tan \frac{5\pi}{3}$

10) \_\_\_\_\_

A)  $\frac{\sqrt{3} + 3}{3}$

B)  $\frac{\sqrt{3} + 1}{2}$

C)  $\frac{2\sqrt{3} + 3}{6}$

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

Use a calculator to find the approximate value of the expression rounded to two decimal places.

11)  $\cot 0.2944$

11) \_\_\_\_\_

A) 3.30

B) 1.04

C) 0.96

D) 0.30

A point on the terminal side of an angle  $\theta$  is given. Find the exact value of the indicated trigonometric function of  $\theta$ .

12) (2, 3)

Find  $\tan \theta$ .

12) \_\_\_\_\_

A)  $-\frac{\sqrt{13}}{2}$

B)  $\frac{\sqrt{13}}{2}$

C)  $\frac{2}{3}$

D)  $\frac{3}{2}$

13) (-5, -1)

Find  $\sec \theta$ .

13) \_\_\_\_\_

A)  $-\sqrt{26}$

B)  $-\frac{\sqrt{26}}{5}$

C)  $-\frac{3\sqrt{26}}{26}$

D)  $\frac{\sqrt{26}}{5}$

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ANSWERS:

1) C 2) C 3) A 4) C 5) C 6) D 7) C 8) D 9) B 10) D 11) A 12) D 13) B