

# PRINTABLE VERSION

## Quiz 7

You scored 100 out of 100

### Question 1

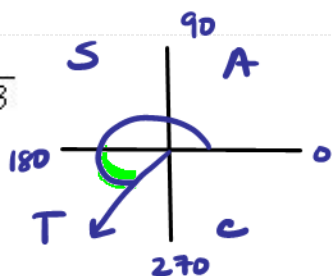
Your answer is CORRECT.

Evaluate:

$$\cos(210^\circ) = -\cos 30^\circ = -\frac{\sqrt{3}}{2}$$

$$210 - 180 = 30^\circ$$

- a) ☒  $-\frac{1}{2}\sqrt{3}$
- b) ☐  $\frac{1}{2}$
- c) ☐  $-\frac{1}{2}$
- d) ☐  $\frac{1}{2}\sqrt{3}$
- e) ☐  $\sqrt{3}$
- f) ☐ None of the above.



### Question 2

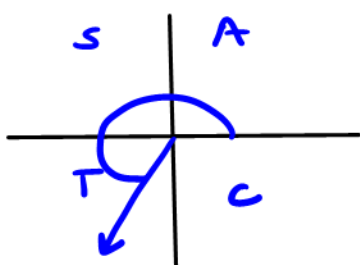
Your answer is CORRECT.

Evaluate:

$$\tan\left(\frac{4}{3}\pi\right) = \tan\left(\frac{\pi}{3}\right) = \frac{\sin(\pi/3)}{\cos(\pi/3)}$$

$$\begin{aligned} \text{ref } \theta &= \frac{\pi}{3} &= \frac{\sqrt{3}/2}{1/2} \\ & &= \frac{\sqrt{3}}{2} \cdot \frac{2}{1} = \sqrt{3} \end{aligned}$$

- a) ☐  $-\sqrt{3}$
- b) ☐ 3
- c) ☒  $\sqrt{3}$



- d) ☐  $\frac{1}{3}\sqrt{3}$
- e) ☐  $-\frac{1}{3}\sqrt{3}$
- f) ☐ None of the above.

### Question 3

Your answer is CORRECT.

Evaluate:

$$\csc\left(\frac{4}{3}\pi\right) = \frac{-1}{\sin(\pi/3)} = \frac{-1}{\sqrt{3}/2}$$

- a) ☒  $-\frac{2}{3}\sqrt{3}$
- b) ☐ 2
- c) ☐ -2
- d) ☐  $\frac{2}{3}\sqrt{3}$
- e) ☐  $\frac{1}{3}\sqrt{3}$
- f) ☐ None of the above.



$$\begin{aligned} \text{ref } \theta &= \frac{\pi}{3} \\ &= \frac{-1}{1} \cdot \frac{2}{\sqrt{3}} \\ &= \frac{-2}{\sqrt{3}} \cdot \frac{\sqrt{3}}{\sqrt{3}} \\ &= \frac{-2\sqrt{3}}{3} \end{aligned}$$

### Question 4

Your answer is CORRECT.

Evaluate:

$$\tan\left(\frac{5}{6}\pi\right) = -\tan\left(\frac{\pi}{6}\right) = \frac{-\sin(\pi/6)}{\cos(\pi/6)}$$

- a) ☐  $\sqrt{3}$
- b) ☒  $-\frac{1}{3}\sqrt{3}$



$$\begin{aligned} \text{ref } \theta &= \pi/6 \\ &= \frac{-1/2}{\sqrt{3}/2} = \frac{-1}{2} \cdot \frac{2}{\sqrt{3}} = \frac{-1}{\sqrt{3}} \cdot \frac{\sqrt{3}}{\sqrt{3}} \\ &= \frac{-\sqrt{3}}{3} \end{aligned}$$

- c) ☐  $\frac{1}{3}$
- d) ☐  $-\sqrt{3}$
- e) ☐  $\frac{1}{3}\sqrt{3}$
- f) ☐ None of the above.

### Question 5

Your answer is CORRECT.

Evaluate:

$$\sin(45^\circ) = \frac{\sqrt{2}}{2}$$

- a) ☐  $-\frac{1}{2}\sqrt{2}$
- b) ☐  $\frac{1}{2}$
- c) ☒  $\frac{1}{2}\sqrt{2}$
- d) ☐  $-\frac{1}{2}\sqrt{3}$
- e) ☐  $\frac{1}{2}\sqrt{3}$
- f) ☐ None of the above.

### Question 6

Your answer is CORRECT.

Evaluate:

$$\cot(210^\circ) = \cot 30^\circ = \frac{\cos(30^\circ)}{\sin(30^\circ)} = \frac{\frac{\sqrt{3}}{2}}{\frac{1}{2}}$$

- a) ☒  $\sqrt{3}$
- b) ☐  $-\frac{1}{3}\sqrt{3}$



$$210 - 180 = 30^\circ = \frac{\sqrt{3}}{2} \cdot \frac{2}{1} = \sqrt{3}$$

- c) ☐  $\frac{1}{3}\sqrt{3}$
- d) ☐  $-\sqrt{3}$
- e) ☐ 3
- f) ☐ None of the above.

### Question 7

Your answer is CORRECT.

Evaluate:

$$\sec(120^\circ) = \frac{-1}{\cos(60)} = \frac{-1}{(1/2)} = \frac{-1}{1} \cdot \frac{2}{1} = -2$$



$$180 - 120 = 60$$

$$\text{ref } \theta = 60$$

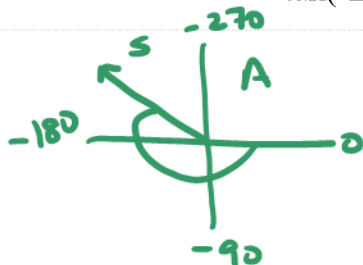
- a) ☐  $-\frac{2}{3}\sqrt{3}$
- b) ☒ -2
- c) ☐  $-\sqrt{3}$
- d) ☐  $\frac{2}{3}\sqrt{3}$
- e) ☐ 2
- f) ☐ None of the above.

### Question 8

Your answer is CORRECT.

Evaluate:

$$\tan(-225^\circ) = -\tan(45) = -1$$



$$\begin{aligned} -180 - (-225) \\ = -180 + 225 \\ = 45 \end{aligned}$$

- a) ☐ 1
- b) ☐ 2
- c) ☒ -1
- d) ☐  $-\sqrt{3}$

e) ☐ -2f) ☐ None of the above.**Question 9****Your answer is CORRECT.**

Evaluate:

$$\sin\left(-\frac{1}{3}\pi\right) = -\sin\left(\pi/3\right)$$

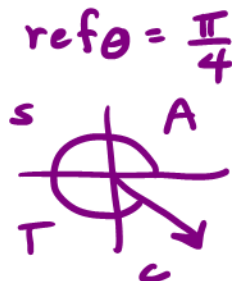
a) ☐  $\frac{1}{2}\sqrt{3}$ b) ☐  $-\sqrt{3}$ c) ☒  $-\frac{1}{2}\sqrt{3}$ d) ☐  $-\frac{1}{2}$ e) ☐  $\frac{1}{2}$ f) ☐ None of the above.

$$\sin(-\theta) = -\sin\theta = -\sqrt{3}/2$$

**Question 10****Your answer is CORRECT.**

Evaluate:

$$\sec\left(\frac{7}{4}\pi\right) = \sec\left(\pi/4\right) = \frac{1}{\cos(\pi/4)}$$

a) ☐  $\frac{1}{2}\sqrt{2}$ b) ☐  $-\frac{1}{2}\sqrt{2}$ c) ☐ 2d) ☒  $\sqrt{2}$ 

$$= \frac{1}{\sqrt{2}/2} = \frac{2}{\sqrt{2}} \cdot \frac{\sqrt{2}}{\sqrt{2}} = \frac{2\sqrt{2}}{2} = \sqrt{2}$$

c) ☐  $-\sqrt{2}$

f) ☐ None of the above.

### Question 11

Your answer is CORRECT.

Evaluate:

$$\sin(-30^\circ) = -\sin(30^\circ) = -\frac{1}{2}$$

a) ☐  $\frac{1}{2}$

b) ☐  $-\frac{1}{3}\sqrt{3}$

c) ☒  $-\frac{1}{2}$

d) ☐  $-\frac{1}{2}\sqrt{3}$

e) ☐  $\frac{1}{2}\sqrt{3}$

f) ☐ None of the above.

### Question 12

Your answer is CORRECT.

Evaluate:

$$\csc\left(\frac{5}{6}\pi\right) = \csc\left(\frac{7\pi}{6}\right) = \frac{1}{\frac{1}{2}} = \frac{1}{1} \cdot \frac{2}{1} = 2$$

a) ☐  $-2$

b) ☒  $2$

c) ☐  $\frac{2}{3}\sqrt{3}$

d) ☐  $-\sqrt{3}$

$$\text{ref } \theta = \frac{\pi}{6}$$



e) ☐  $-\frac{2}{3}\sqrt{3}$

f) ☐ None of the above.

### Question 13

Your answer is CORRECT.



Evaluate:

$$\tan(180^\circ)$$

a) ☐ 1

b) ☒ 0

c) ☐  $\sqrt{3}$

d) ☐ -1

e) ☐ Undefined

f) ☐ None of the above.

$$\tan(180) = \frac{\sin(180)}{\cos(180)} = \frac{0}{-1} = 0$$

### Question 14

Your answer is CORRECT.

Evaluate:

$$\cos\left(\frac{3}{4}\pi\right) = -\cos\left(\frac{\pi}{4}\right)$$

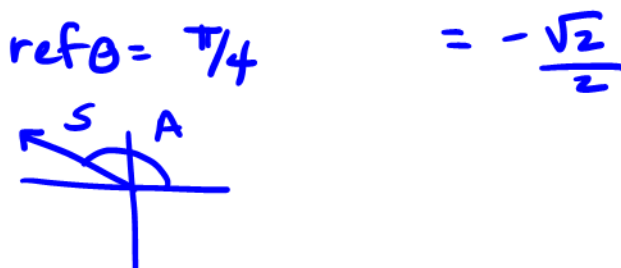
a) ☐  $\frac{1}{2}\sqrt{2}$

b) ☒  $-\frac{1}{2}\sqrt{2}$

c) ☐  $-\frac{1}{2}\sqrt{3}$

d) ☐  $\frac{1}{2}$

e) ☐  $\frac{1}{2}\sqrt{3}$



f) ☐ None of the above.

### Question 15

Your answer is CORRECT.

Evaluate:

$$\csc(45^\circ) = \frac{1}{\sin 45} = \frac{1}{\frac{\sqrt{2}}{2}} = \frac{2}{\sqrt{2}} \cdot \frac{\sqrt{2}}{\sqrt{2}} = \frac{2\sqrt{2}}{2} = \sqrt{2}$$

a) ☐  $-\frac{2}{3}\sqrt{3}$

b) ☐  $-\sqrt{2}$

c) ☐ 2

d) ☐  $\frac{2}{3}\sqrt{3}$

☒  $\sqrt{2}$

f) ☐ None of the above.

### Question 16

Your answer is CORRECT.

Evaluate:

$$\cot(60^\circ) = \frac{\cos(60)}{\sin(60)}$$

a) ☐  $-\sqrt{3}$

b) ☐  $-\frac{1}{3}\sqrt{3}$

c) ☐  $\frac{1}{3}$

d) ☐  $\sqrt{3}$

☒  $\frac{1}{3}\sqrt{3}$

f) ☐ None of the above.

$$= \frac{\frac{1}{2}}{\frac{\sqrt{3}}{2}} = \frac{1}{2} \cdot \frac{2}{\sqrt{3}} = \frac{1}{\sqrt{3}} \cdot \frac{\sqrt{3}}{\sqrt{3}} = \frac{\sqrt{3}}{3}$$



## Question 17

Your answer is CORRECT.

Evaluate:

$$\sec\left(-\frac{7}{6}\pi\right) = \sec\left(\frac{7\pi}{6}\right) = -\sec\left(\frac{\pi}{6}\right)$$

a) ☐  $\frac{2}{3}\sqrt{3}$

b) ☐  $\frac{1}{3}\sqrt{3}$

c) ☒  $-\frac{2}{3}\sqrt{3}$

d) ☐  $-2$

e) ☐  $2$

f) ☐ None of the above.

Rule:  $\sec(-\theta) = \sec(\theta)$

ref  $\theta = \frac{\pi}{6}$



$$= \frac{-1}{\cos(\pi/6)}$$

$$= \frac{-1}{\sqrt{3}/2}$$

$$= \frac{-1}{1} \cdot \frac{2}{\sqrt{3}} = \frac{-2}{\sqrt{3}} \cdot \frac{\sqrt{3}}{\sqrt{3}}$$

$$= \frac{-2\sqrt{3}}{3}$$

## Question 18

Your answer is CORRECT.

Evaluate:

$$\cot(315^\circ) = -\cot(45^\circ) = -1$$

a) ☐  $1$

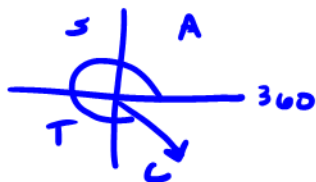
b) ☒  $-1$

c) ☐  $-\frac{1}{3}\sqrt{3}$

d) ☐  $-2$

e) ☐  $-\sqrt{3}$

f) ☐ None of the above.



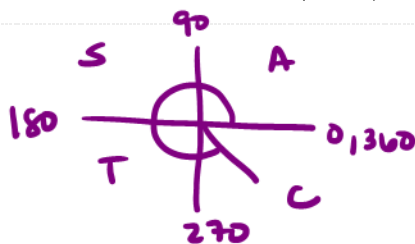
ref  $\theta = 360 - 315 = 45$

## Question 19

Your answer is CORRECT.

Evaluate:

$$\cos(300^\circ) = \cos 60 = \frac{1}{2}$$



$$\text{ref } \theta = 360 - 300 = 60$$

a) ☐  $-\frac{1}{2}$

b) ☒  $\frac{1}{2}$

c) ☐  $-\frac{1}{3}\sqrt{3}$

d) ☐  $\frac{1}{2}\sqrt{3}$

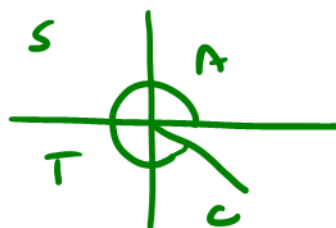
e) ☐  $-\frac{1}{2}\sqrt{3}$

f) ☐ None of the above.**Question 20**

Your answer is CORRECT.

Evaluate:

$$\tan\left(\frac{7}{4}\pi\right) = -\tan\left(\frac{\pi}{4}\right) = -1$$



$$\text{ref } \theta = \frac{\pi}{4}$$

a) ☐  $\sqrt{3}$

b) ☐  $-\sqrt{3}$

c) ☐  $\frac{1}{3}\sqrt{3}$

d) ☒  $-1$

e) ☐  $1$

f) ☐ None of the above.**Question 21**

Your answer is CORRECT.

Evaluate:

$$\sin\left(\frac{1}{6}\pi\right) = \frac{1}{2}$$

- a) ☐  $-\frac{1}{2}$
- b) ☐  $\frac{1}{3}\sqrt{3}$
- c) ☒  $\frac{1}{2}$
- d) ☐  $-\frac{1}{2}\sqrt{3}$
- e) ☐  $\frac{1}{2}\sqrt{3}$
- f) ☐ None of the above.

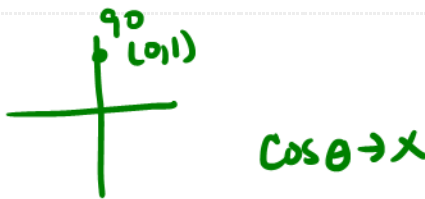
**Question 22**

Your answer is CORRECT.

Evaluate:

$$\cos(90^\circ) = 0$$

- a) ☒ 0
- b) ☐  $-\frac{1}{2}$
- c) ☐ 1
- d) ☐ undefined
- e) ☐  $\frac{1}{2}$
- f) ☐ None of the above.

**Question 23**

Your answer is CORRECT.

Evaluate:

$$\sin\left(-\frac{1}{6}\pi\right) = -\sin(\pi/6) = -\frac{1}{2}$$

- a) ☐  $\frac{1}{2}$
- b) ☐  $-\frac{1}{3}\sqrt{3}$
- c) ☒  $-\frac{1}{2}$
- d) ☐  $-\frac{1}{2}\sqrt{3}$
- e) ☐  $\frac{1}{2}\sqrt{3}$
- f) ☐ None of the above.

$$\text{* Rule: } \sin(-\theta) = -\sin \theta$$

## Question 24

Your answer is CORRECT.

Evaluate:

$$\cos\left(\frac{2}{3}\pi\right) = -\cos(\pi/3) = -\frac{1}{2}$$

- a) ☐  $\frac{1}{2}$
- b) ☒  $-\frac{1}{2}$
- c) ☐  $-\frac{1}{2}\sqrt{3}$
- d) ☐  $-\frac{1}{3}\sqrt{3}$
- e) ☐  $\frac{1}{2}\sqrt{3}$
- f) ☐ None of the above.

$$\text{ref } \theta = \pi/3$$



**Question 25**

Your answer is CORRECT.

Evaluate:

$$\sec(30^\circ) = \frac{1}{\cos(30^\circ)} = \frac{1}{(\sqrt{3}/2)}$$

a) ☐  $-\frac{2}{3}\sqrt{3}$

b) ☐  $\frac{1}{3}\sqrt{3}$

c) ☒  $\frac{2}{3}\sqrt{3}$

d) ☐  $-2$

e) ☐  $2$

f) ☐ None of the above.

$$= \frac{1}{1} \cdot \frac{2}{\sqrt{3}} = \frac{2}{\sqrt{3}} \cdot \frac{\sqrt{3}}{\sqrt{3}} = \frac{2\sqrt{3}}{3}$$