

Classify the angle as acute, right, obtuse, or straight.

1)  $23.01^\circ$  1) \_\_\_\_\_  
 A) obtuse                      B) right                      C) straight                      D) acute

2)  $\pi$  2) \_\_\_\_\_  
 A) straight                      B) acute                      C) right                      D) obtuse

Find the radian measure of the central angle of a circle of radius  $r$  that intercepts an arc of length  $s$ .

3)  $r = 1.7$  meters,  $s = 4.93$  meters 3) \_\_\_\_\_  
 A) 1.1 radians                      B) 0.85 radians                      C) 0.59 radians                      D) 2.9 radians

Convert the angle in degrees to radians. Express answer as a multiple of  $\pi$ .

4)  $45^\circ$  4) \_\_\_\_\_  
 A)  $\frac{\pi}{5}$  radians                      B)  $\frac{\pi}{3}$  radians                      C)  $\frac{\pi}{6}$  radians                      D)  $\frac{\pi}{4}$  radians

5)  $-90^\circ$  5) \_\_\_\_\_  
 A)  $-\frac{\pi}{4}$  radians                      B)  $-\frac{\pi}{8}$  radians                      C)  $-\frac{\pi}{3}$  radians                      D)  $-\frac{\pi}{2}$  radians

6)  $162^\circ$  6) \_\_\_\_\_  
 A)  $\frac{10\pi}{11}$  radians                      B)  $\frac{9\pi}{10}$  radians                      C)  $\frac{8\pi}{9}$  radians                      D)  $\frac{4}{5}\pi$  radians

Convert the angle in radians to degrees.

7)  $\frac{\pi}{5}$  7) \_\_\_\_\_  
 A)  $1^\circ$                       B)  $36^\circ$                       C)  $\left(\frac{\pi}{5}\right)^\circ$                       D)  $36\pi^\circ$

8)  $-\frac{\pi}{6}$  8) \_\_\_\_\_  
 A)  $-1^\circ$                       B)  $-30^\circ$                       C)  $-\left(\frac{\pi}{6}\right)^\circ$                       D)  $-30\pi^\circ$

9)  $\frac{9}{8}\pi$  9) \_\_\_\_\_  
 A)  $160\pi^\circ$                       B)  $203^\circ$                       C)  $405^\circ$                       D)  $160^\circ$

Convert the angle in radians to degrees. Round to two decimal places.

10) 2 radians 10) \_\_\_\_\_  
 A)  $0.03^\circ$                       B)  $-0.16^\circ$                       C)  $114.59^\circ$                       D)  $113.67^\circ$

Find a positive angle less than  $360^\circ$  or  $2\pi$  that is coterminal with the given angle.

11)  $-84^\circ$  11) \_\_\_\_\_  
A)  $96^\circ$                       B)  $84^\circ$                       C)  $276^\circ$                       D)  $456^\circ$

12)  $-893^\circ$  12) \_\_\_\_\_  
A)  $173^\circ$                       B)  $187^\circ$                       C)  $533^\circ$                       D)  $7^\circ$

13)  $\frac{11\pi}{5}$  13) \_\_\_\_\_  
A)  $\frac{\pi}{5}$                       B)  $\frac{6\pi}{5}$                       C)  $\frac{4\pi}{5}$                       D)  $-\frac{\pi}{5}$

14)  $-\frac{2\pi}{9}$  14) \_\_\_\_\_  
A)  $\frac{34\pi}{9}$                       B)  $\frac{2\pi}{9}$                       C)  $\frac{25\pi}{9}$                       D)  $\frac{16\pi}{9}$

Find the length of the arc on a circle of radius  $r$  intercepted by a central angle  $\theta$ . Round answer to two decimal places.

15)  $r = 10$  centimeters,  $\theta = 70^\circ$  15) \_\_\_\_\_  
A) 13.44 centimeters                      B) 9.78 centimeters  
C) 12.22 centimeters                      D) 11 centimeters

Solve the problem.

16) A pendulum swings through an angle of  $20^\circ$  each second. If the pendulum is 25 inches long, how far does its tip move each second? If necessary, round the answer to two decimal places. 16) \_\_\_\_\_  
A) 11.16 inches                      B) 8.73 inches                      C) 6.88 inches                      D) 10.02 inches

17) A car wheel has a 16-inch radius. Through what angle (to the nearest tenth of a degree) does the wheel turn when the car rolls forward 5 ft? 17) \_\_\_\_\_  
A)  $214.9^\circ$                       B)  $229.9^\circ$                       C)  $224.9^\circ$                       D)  $219.9^\circ$

18) A gear with a radius of 32 centimeters is turning at  $\frac{\pi}{3}$  radians per sec. What is the linear speed at a point on the outer edge of the gear? 18) \_\_\_\_\_  
A)  $\frac{32\pi}{3}$  centimeters per second                      B)  $96\pi$  centimeters per second  
C)  $\frac{\pi}{96}$  centimeters per second                      D)  $\frac{3\pi}{32}$  centimeters per second

## Answer Key

Testname: PRACTICE01

- 1) D
- 2) A
- 3) D
- 4) D
- 5) D
- 6) B
- 7) B
- 8) B
- 9) B
- 10) C
- 11) C
- 12) B
- 13) A
- 14) D
- 15) C
- 16) B
- 17) A
- 18) A