MAT 110 Test #2 Review Part 1 G.Buthusiem

Find the measures of two angles, one positive and one negative, that are coterminal with the given angle.

1. $76°$

2. $\frac{3\pi}{5}$

Name the quadrant in which the angle lies.

3. $177°$

Convert the degree measure to radian measure. Give the exact answer.

4. $-36°$

Solve the problem.

5. Find the length of the arc intercepted by a central angle of $\frac{7\pi}{9}$ in a circle of radius 7 cm. Round to two decimal places.

Find the exact value of the following expression without using a calculator.

6. $\sin\left(\frac{7\pi}{4}\right)$

7. $\cos\left(\frac{7\pi}{4}\right)$

8. $\cos\left(-\frac{7\pi}{6}\right)$

Find the exact value of the expression.

9. $\frac{\cos(7\pi/6)}{\sin(7\pi/6)}$

Find the exact value of the following expression without using a calculator.

10. $\cot(\pi)$

11. $\tan(-\pi/2)$

Find the exact value of the expression without using a calculator or table.

12. $\sin^{-1}\left(\frac{\sqrt{2}}{2}\right)$

13. $\tan^{-1}(1)$

14. $\arctan(1)$

Find the exact value of the composition.

15. $\sin^{-1}\left(\sin\left(\frac{\pi}{6}\right)\right)$

16. $\sin^{-1}\left(\sin\left(\pi\right)\right)$

Find the exact value of the indicated trigonometric function of θ, if θ is an angle in standard position whose terminal side contains the given point.

17. (21, 28); Find sin θ.

18. (–20, 48); Find sin θ.

Solve the right triangle with the given sides and angles.

19. a = 2.4 cm, b = 1.1 cm

Solve the problem.

20. A 33–foot ladder is leaning against the side of a building. If the ladder makes an angle of 28° with the side of the building, how far up from the ground does the ladder make contact with the building? Round your answer to the hundredths place.

1. 436°; –284°
2. $\frac{13\pi}{5}; -\frac{7\pi}{5}$
3. II
4. $-\frac{\pi}{5}$
5. 17.1 cm
6. $-\frac{\sqrt{2}}{2}$
7. $\frac{\sqrt{2}}{2}$
8. $-\frac{\sqrt{3}}{2}$
9. $\sqrt{3}$
10. Undefined
11. Undefined
12. $\frac{\pi}{4}$
13. $\frac{\pi}{4}$
14. $\frac{\pi}{4}$
15. $\frac{\pi}{6}$
16. 0
17. $\frac{4}{5}$
18. $\frac{12}{13}$
19. $\alpha = 65.4°$, $\beta = 24.6°$, c = 2.6 cm
20. 29.14 ft