Precalculus (23554) (Math 1) HW Set #8. Due in class on Wednesday, April 22nd.

In order to receive a ✓, you must attempt all problems and write out all steps leading to your answers neatly and legibly. You cannot simply write the correct answer to demonstrate your mathematical understanding.

You must include your name, the course title and section number on the first page. All homework sets must be stapled. No late homework will be accepted without my express permission. You may receive a ✗ if these guidelines are not followed.

Good luck!

Convert the angle in degrees to radians. Express the answer as multiple of π.

1) 135° 1) _____

Convert the angle in radians to degrees.

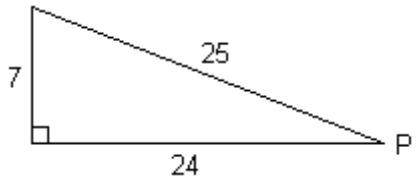
2) $-\frac{7\pi}{4}$ 2) _____

If A denotes the area of the sector of a circle of radius r formed by the central angle θ, find the missing quantity. If necessary, round the answer to two decimal places.

3) r = 9 feet, A = 64 square feet, θ = ? 3) _____

Solve the problem.

4) Find the exact value of each of the six trigonometric functions of the angle P. 4) _____



Use the definition or identities to find the exact value of the indicated trigonometric function of the acute angle θ.

5) $\sin\theta = \frac{4}{5}$ Find tan θ. 5) _____

6) $\cos\theta = \frac{4}{5}$ Find cot θ. 6) _____

7) $\tan\theta = \frac{5}{12}$ Find cos θ. 7) _____

8) $\sec\theta = \sqrt{10}$ Find csc θ. 8) _____

Use the reference angle to find the exact value of the expression. Do not use a calculator.

9) sin 495° 9) _____

10) tan 570° 10) _____

11) $\cot 390°$ 11) _____

12) $\tan \frac{-5\pi}{6}$ 12) _____

13) $\csc \frac{4\pi}{3}$ 13) _____

14) $\sec \frac{3\pi}{4}$ 14) _____

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

15) $\csc \theta = -\frac{7}{4}$, θ in quadrant III Find $\cot \theta$. 15) _____

16) $\tan \theta = -\frac{10}{7}$, θ in quadrant II Find $\cos \theta$. 16) _____

17) $\tan \theta = -\frac{20}{21}$, $270° < \theta < 360°$ Find $\cos \theta$. 17) _____

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

18) $y = \frac{3}{8} \sin (-\frac{6\pi}{5}x)$ Find the period. 18) _____

Find the phase shift of the function.

19) $y = -4 \cos (8x + \pi)$ 19) _____

1) $\frac{3\pi}{4}$

2) –315°

3) 1.58 radians

4) $\sin P = \frac{7}{25}$, $\cos P = \frac{24}{25}$, $\tan P = \frac{7}{24}$, $\csc P = \frac{25}{7}$, $\sec P = \frac{25}{24}$, and $\cot P = \frac{24}{7}$

5) $\frac{4}{3}$

6) $\frac{4}{3}$

7) $\frac{12}{13}$

8) $\frac{\sqrt{10}}{3}$

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

10) $\frac{\sqrt{3}}{3}$

11) $\sqrt{3}$

12) $\frac{\sqrt{3}}{3}$

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

14) $-\sqrt{2}$

15) $\frac{\sqrt{33}}{4}$

16) $-\frac{7\sqrt{149}}{149}$

17) $\frac{21}{29}$

18) $\frac{5}{3}$

19) $\frac{\pi}{8}$ units to the left