

## Precalculus Worksheet #2 Chapter 5 page 1

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Calculators are not to be used on this page of the worksheet.

In each of the following problems you are given a point on the terminal side of angle  $\theta$ . (Assume that  $\theta$  is in standard position.) Find the exact value of all six trigonometric functions.

1.  $(12, -5)$

$$\sin \theta =$$

$$\sec \theta =$$

$$\tan \theta =$$

$$\cos \theta =$$

$$\csc \theta =$$

$$\cot \theta =$$

2.  $(-3, -4)$

$$\sin \theta =$$

$$\sec \theta =$$

$$\tan \theta =$$

$$\cos \theta =$$

$$\csc \theta =$$

$$\cot \theta =$$

Find two values of  $\theta$  between  $0^\circ$  and  $360^\circ$  that are solutions of each of the following equations. Express your answers in degrees (exact value).

3.  $\cos \theta = -0.5$

4.  $\tan \theta = 1$

Find two values of  $x$  between  $0$  and  $2\pi$  that are solutions to each of the following equations. Express your answers in radians in terms of  $\pi$ .

5.  $\csc x = 2$

6.  $\cot x = -1$

## Precalculus Worksheet #2 Chapter 5 page 2

Calculators are not to be used on this page of the worksheet.

Use the given information to find the exact value (if possible) of the indicated trigonometric functions. Express your answers in simplest form.

7.  $\cos \theta = -0.6$  ;  $180^\circ < \theta < 270^\circ$

$\sin \theta =$

$\cos \theta = .6$

$\tan \theta =$

$\sec \theta =$

$\csc \theta =$

$\cot \theta =$

8.  $\sin \theta = 5/12$  ;  $90^\circ < \theta < 180^\circ$

$\sin \theta = 5/12$

$\cos \theta =$

$\tan \theta =$

$\sec \theta =$

$\csc \theta =$

$\cot \theta =$

9.  $\tan \theta = -3/4$  ;  $270^\circ < \theta < 360^\circ$

$\sin \theta =$

$\cos \theta =$

$\tan \theta = -3/4$

$\sec \theta =$

$\csc \theta =$

$\cot \theta =$

## Precalculus Worksheet #2 Chapter 5 page 3

Calculators are not to be used on this page of the worksheet.

Find the exact value of each of the following.

10.  $\sin 150^\circ =$

11.  $\cos 270^\circ =$

12.  $\tan 150^\circ =$

13.  $\sec 300^\circ =$

14.  $\csc -60^\circ =$

15.  $\cot 420^\circ =$

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

17.  $\cos \left( \frac{-5\pi}{3} \right) =$

18.  $\tan \left( \frac{5\pi}{3} \right) =$

19.  $\csc \left( \frac{3\pi}{4} \right) =$

20.  $\sec \left( \frac{-\pi}{4} \right) =$

21.  $\cot \left( \frac{7\pi}{6} \right) =$

## Precalculus Worksheet #2 Chapter 5 page 4

Calculators are needed on this page of the worksheet.

Find two values of  $\theta$  between  $0^\circ$  and  $360^\circ$  that are solutions of each of the following equations. Express your answers in degrees rounded to 3 significant digits.

22.  $\sin \theta = -0.4$

23.  $\cos \theta = 0.35$

24.  $\tan \theta = 4.5$

25.  $\sec \theta = -3.4$

Find two values of  $x$  between  $0$  and  $2\pi$  that are solutions to each of the following equations. Express your answers in radians rounded to 3 significant digits.

26.  $\sin x = 0.3$

27.  $\cos x = -0.74$

28.  $\cot x = 0.75$

29.  $\csc x = 5.8$