Pre-Calculus Name_____ ID: 1

Intro To Trig Study Guide

Date_____ Period____

State the quadrant in which the terminal side of each angle lies.

1) $341°$

2) $-17°$

3) $200°$

4) $460°$

5) $-295°$

6) $330°$

7) $-10°$

8) $-545°$

9) $-405°$

10) $380°$

Identify the quadrant(s) in which the angle θ lies

11) $\sin\theta > 0$

12) $\sin\theta < 0$ and $\cos\theta > 0$

13) $\tan\theta < 0$ and $\cos\theta < 0$

14) $\sec\theta > 0$ and $\sin\theta > 0$

Convert each degree measure into radians.

15) $150°$

16) $450°$

17) $-325°$

18) $-765°$

Convert each radian measure into degrees.

19) $\frac{7\pi}{18}$

20) $-\frac{\pi}{3}$

21) $\frac{7\pi}{3}$

22) $\frac{37\pi}{12}$

Find a positive and a negative coterminal angle for each given angle.

23) $570°$

24) $480°$

25) $225°$

26) $-36°$

27) $\frac{\pi}{3}$

28) $\frac{203\pi}{90}$

29) $\frac{\pi}{5}$

30) $\frac{\pi}{2}$

Find the reference angle.

31) $490°$

32) $240°$

33) $295°$

34) $-355°$

35) $\frac{13\pi}{4}$

36) $-\frac{32\pi}{9}$

37) $\frac{37\pi}{12}$

38) $\frac{5\pi}{4}$

Find the exact value of each trigonometric function.

39) $\sin 570°$

40) $\csc 840°$

41) $\csc -450°$

42) $\sec -405°$

43) $\cot -\frac{23\pi}{4}$

44) $\sec -\frac{7\pi}{4}$

45) $\sin -\frac{5\pi}{3}$

46) $\tan \frac{3\pi}{4}$

Use the given point on the terminal side of angle θ to find the value of r and the six trigonometric functions

47) (4,3)

48) (-7,-12)

49) In a predator/prey model, the predator population is modeled by the function: $p(t) = 900 \cos(\frac{2\pi}{3}t) + 800$, where t is measured in years.

a) What is the maximum population?

b) What is the minimum population?

c) Find the length of time between successive periods of maximum population (Hint: find the period).

50) Researchers find a creature from an alien planet. Its body temperature varies sinusoidally with time. The equation $y=8\cos(\frac{\pi}{20}t - \frac{35\pi}{20} + 112$, where y is the alien's body temperature, and t is time in minutes.

a) What is the maximum the alien's body temperature can reach?

b) What is the minimum the alien's body temperature can reach?

c) What is the period of the body temperature cycle?

Using degrees, find the amplitude, period, phase shift, vertical shift, and midline. Then graph.

51) $y=3 \sin 2(\theta - 90°) - 2$

a = _____

pd = _____

ps = _____

vs = _____

Midline: y = _____

CP: _____

Graph:

52) $y = 2 \cos \frac{1}{3}(\theta + 60°) - 4$

a = _____

pd = _____

ps = _____

vs = _____

Midline: y = _____

CP: _____

Graph: