AFM Study Guide for Circular Trig Test Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**I. Find the radian measure that corresponds to the given degree or radian measure. (Be exact!)**

1. 70 2. -240 3.  radians 4. 1.2 radians

**II. Find the reference angle for the following measures AND give the quadrant of the original angle.**

5. 24 5.  7. 750 8.  9. 10.

**III. Find the following from the given information.**

11. Find the length of an arc of a circle of radius 8 m if the arc subtends a central angle of 400.

12. Find the measure of a central angle  (in radians and degrees) in a circle of radius 5 ft if the arc length is 7 ft.

13. A circular arc of length 100 ft subtends a central angle of 70. Find the radius of the circle.

14. The propeller on a wind generator turns 10.3 revolutions per minute. Express this angular speed in radians per minute.

15. The propeller of an airplane has a radius of 3 ft. The propeller is rotating at 2250 revolutions per minute. Find the linear speed, in ft per minute, of the tip of the propeller.

**IV. Find the exact values of the following.**

16. sin 315 17. tan (-135) 18. cos 19. sin 405 20. cos 21. tan 4 22. sec

23. cos 225 24. tan 210 25. cot 420 26. sin  27. csc  28. tan 29. cos π

**V. Find the value of the SIX trigonometric functions of  from the information given.**

30. tan = 4, sin<0 31. sin Ѳ = -¾ and cos Ѳ > 0

**VI. Terminal points.**

32. If (-1, -5) is a point on the terminal side of angle θ, find the exact value of each of the six trig functions.

**VII. Find the quadrant in which lies from the information given.**

34.  35. 

**VIII. Graphs. For #36 – 39, state the amplitude, period, phase shift, and vertical shift.**

36. y = 3sin(x + π) - 3 37. y = -2cosx – 1 38. y =  39. y = 

40. A Ferris wheel has a diameter of 20 m and the bottom of the wheel passes 1 m above the ground. If the Ferris wheel makes one complete revolution every 20 seconds, find both a sine and cosine equation that gives the height above the ground of a person on the Ferris wheel as a function of time. Let t = 0 be when the person gets on the Ferris wheel at its lowest point.