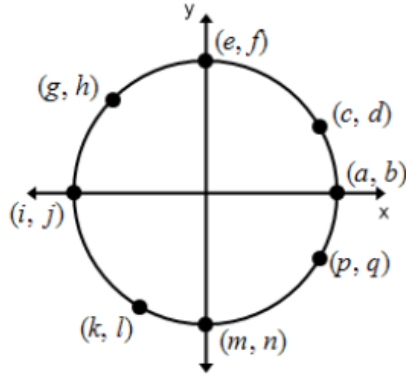Name:_____   Period:_____

SM2H 9.3 HW-Using the Unit Circle

Refer to the diagram below. Give the letter or letters that could stand for the function value.

1. $\sin 180°$

2. $\tan 0°$

3. $\cos \frac{11\pi}{6}$

4. $\cos 270°$

5. $\sec 30°$

6. $\sin 135°$

7. $\cos 330°$

8. $\csc \frac{\pi}{2}$

9. $\cot \frac{4\pi}{3}$

10. $\cos \frac{3\pi}{4}$
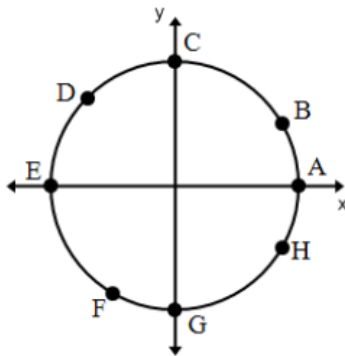
11. $\tan \frac{4\pi}{3}$

12. $\sin 2\pi$

13. $\sin -\frac{11\pi}{6}$

14. $\tan -\frac{5\pi}{4}$

15. $\sec \frac{3\pi}{2}$

16. $\cos -\frac{2\pi}{3}$

For the indicated point, tell if the value for $\sin \theta$ or $\cos \theta$ is positive, negative, neither (zero), or undefined.

17. $\cos G$

18. $\csc B$

19. $\sin G$

20. $\cot C$

21. $\sin E$

22. $\cos A$

23. $\sin H$

24. $\csc B$

25. $\tan D$

26. $\cot D$

27. $\tan F$

28. $\sec C$

Find the exact value of each trigonometric function using the unit circle as a reference.

29) $\sin \dfrac{\pi}{2}$

30) $\cos \dfrac{\pi}{4}$

31) $\sin \dfrac{\pi}{3}$

32) $\sec \dfrac{2\pi}{3}$

33) $\tan -\dfrac{\pi}{2}$

34) $\cot \dfrac{\pi}{2}$

35) $\sec -45°$

36) $\tan \dfrac{5\pi}{4}$

37) $\cos 0°$

38) $\sin \dfrac{7\pi}{6}$

39) $\csc 45°$

40) $\cot -\dfrac{\pi}{3}$

41) $\cos 315°$

42) $\cos \dfrac{11\pi}{6}$

43) $\cot 210°$

44) $\cot 90°$

45) $\tan 225°$

46) $\cot 240°$

47) $\tan \dfrac{17\pi}{6}$

48) $\tan 720°$

49) $\sin \dfrac{13\pi}{6}$

50) $\cot -\dfrac{23\pi}{4}$

51) $\sin -\dfrac{13\pi}{6}$

52) $\sec \dfrac{8\pi}{3}$

Find the exact measures of the angle (in degrees) using the unit circle.

53. $\sin \theta = \frac{1}{2}$

54. $\cos \theta = \frac{\sqrt{3}}{2}$

55. $\tan \theta = \sqrt{3}$

56. $\sin \theta = -\frac{\sqrt{2}}{2}$

57. $\tan \theta = 0$

58. $\tan \theta = undefined$

Find the exact value of the expression using your unit circle. Do not use a calculator.

59. $\dfrac{\cos\frac{7\pi}{6}}{\sin\frac{7\pi}{6}}$

60. $\sin\frac{\pi}{4} + \cos\frac{\pi}{4}$

61. $\csc \propto$, if $\sin \propto = \frac{3}{4}$

62. $\sec \propto$, if $\sin \propto = -\frac{3}{5}$ and $\cos \propto < 0$

Find the quadrant that contains the terminal side of the angle θ.

63. $\csc \theta > 0$ and $\cot \theta > 0$

64. $\sin \theta < 0$ and $\tan \theta > 0$

Find the exact values of $\sin \theta$, $\cos \theta$, $\tan \theta$, $\csc \theta$, $\sec \theta$, $\cot \theta$ where θ is an angle in standard position whose terminal side contains the given point. Reduce fractions if possible.

65. $(-9, 5)$