

13.1 – 13.4 Review

Evaluate the six trig functions of the quadrantal angle θ .

1. $\theta = -270^0$ 2. $\theta = -90^0$ 3. $\theta = -180^0$ 4. $\theta = 360^0$ 5. $\theta = 180^0$

Evaluate the function without using a calculator.

6. $\sin 300^0$ 7. $\csc 225^0$ 8. $\cos (-750^0)$ 9. $\tan 405^0$
10. $\sin\left(-\frac{2\pi}{3}\right)$ 11. $\csc\left(\frac{11\pi}{4}\right)$ 12. $\sec\left(\frac{5\pi}{4}\right)$ 13. $\tan\left(\frac{17\pi}{3}\right)$
14. $\sec 225^0$ 15. $\cos (-225^0)$ 16. $\csc (-120^0)$ 17. $\tan 240^0$
18. $\cos\left(\frac{15\pi}{4}\right)$ 19. $\csc\left(\frac{5\pi}{6}\right)$ 20. $\cot\left(\frac{11\pi}{6}\right)$ 21. $\sec\left(-\frac{4\pi}{3}\right)$
22. $\tan 135^0$ 23. $\sin (-60^0)$ 24. $\cos (210^0)$ 25. $\sec (-315^0)$
26. $\cot\left(\frac{7\pi}{6}\right)$ 27. $\csc\left(\frac{2\pi}{3}\right)$ 28. $\tan\left(\frac{7\pi}{3}\right)$ 29. $\sin\left(-\frac{3\pi}{4}\right)$

Evaluate without using a calculator. Give your answer in radians.

30. $\cos^{-1}(-1)$ 31. $\sin^{-1}(1/2)$ 32. $\tan^{-1}\frac{\sqrt{3}}{3}$ 33. $\cos^{-1}\frac{\sqrt{3}}{2}$

Evaluate without using a calculator. Give your answer in degrees.

34. $\tan^{-1} 0$ 35. $\sin^{-1}\frac{\sqrt{2}}{2}$ 36. $\cos^{-1}\frac{1}{2}$ 37. $\tan^{-1}(-1)$

Solve for θ if $0 \leq \theta \leq 2\pi$.

38. $\cos \theta = \left(-\frac{1}{2}\right)$ 39. $\sin \theta = -\frac{\sqrt{2}}{2}$ 40. $\tan \theta = \left(-\frac{\sqrt{3}}{3}\right)$ 41. $\tan \theta = \sqrt{3}$

Solve for θ if $0 \leq \theta \leq 360^0$.

42. $\cos \theta = \left(-\frac{\sqrt{3}}{2}\right)$ 43. $\tan \theta = (-\sqrt{3})$ 44. $\cos \theta = \frac{\sqrt{2}}{2}$ 45. $\sin \theta = (-1)$

ANSWERS:

$\sin \theta = 1; \csc \theta = 1$

1. $\cos \theta = 0; \sec \theta = \text{undef}$
 $\tan \theta = \text{undef}; \cot \theta = 0$

$\sin \theta = 0; \csc \theta = \text{undef}$

4. $\cos \theta = 1; \sec \theta = 1$
 $\tan \theta = 0; \cot \theta = \text{undef}$

$\sin \theta = -1; \csc \theta = -1$

2. $\cos \theta = 0; \sec \theta = \text{undef}$
 $\tan \theta = \text{undef}; \cot \theta = 0$

$\sin \theta = 0; \csc \theta = \text{undef}$

5. $\cos \theta = -1; \sec \theta = -1$
 $\tan \theta = 0; \cot \theta = \text{undef}$

$\sin \theta = 0; \csc \theta = \text{undef}$

3. $\cos \theta = -1; \sec \theta = -1$
 $\tan \theta = 0; \cot \theta = \text{undef}$

6. $\frac{-\sqrt{3}}{2}$

7. $-\sqrt{2}$

8. $\frac{\sqrt{3}}{2}$

9. 1

10. $\frac{-\sqrt{3}}{2}$

11. $\sqrt{2}$

12. $-\sqrt{2}$

13. $-\sqrt{3}$

14. $-\sqrt{2}$

15. $\frac{-\sqrt{2}}{2}$

16. $\frac{-2\sqrt{3}}{3}$

17. $\sqrt{3}$

18. $\frac{\sqrt{2}}{2}$

19. 2

20. $-\sqrt{3}$

21. -2

22. -1

23. $\frac{-\sqrt{3}}{2}$

24. $\frac{-\sqrt{3}}{2}$

25. $\sqrt{2}$

26. $\sqrt{3}$

27. $\frac{2\sqrt{3}}{3}$

28. $\sqrt{3}$

29. $\frac{-\sqrt{2}}{2}$

30. $\pi; 180^\circ$

31. $\frac{\pi}{6}; 30^\circ$

32. $\frac{\pi}{6}; 30^\circ$

33. $\frac{\pi}{6}; 30^\circ$

34. $0; 0^\circ$

35. $\frac{\pi}{4}; 45^\circ$

36. $\frac{\pi}{3}; 60^\circ$

37. $\frac{-\pi}{4}; -45^\circ$

38. $\frac{2\pi}{3}; \frac{4\pi}{3}; 120^\circ; 240^\circ$

39. $\frac{5\pi}{4}; \frac{7\pi}{4}; 225^\circ; 315^\circ$

40. $\frac{5\pi}{6}; \frac{11\pi}{6}; 150^\circ; 330^\circ$

41. $\frac{\pi}{3}; \frac{4\pi}{3}; 60^\circ; 240^\circ$

42. $\frac{5\pi}{6}; \frac{7\pi}{6}; 150^\circ; 210^\circ$

43. $\frac{2\pi}{3}; \frac{5\pi}{3}; 120^\circ; 300^\circ$

44. $\frac{\pi}{4}; \frac{7\pi}{4}; 45^\circ; 315^\circ$

45. $\frac{3\pi}{2}; 270^\circ$