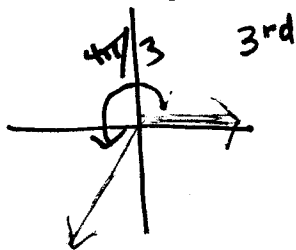


Make a sketch, and determine the quadrant in which the angle lies.

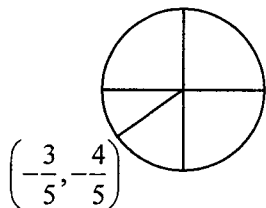
1. $\theta = \frac{4\pi}{3}$

2. $\theta = -\frac{5\pi}{6}$



Determine the exact values of the six trigonometric functions of the angle θ

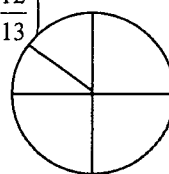
3.



$$\begin{aligned} \sin \theta &= -\frac{4}{5} & \csc \theta &= -\frac{5}{4} \\ \cos \theta &= -\frac{3}{5} & \sec \theta &= -\frac{5}{3} \\ \tan \theta &= \frac{4}{3} & \cot \theta &= \frac{3}{4} \end{aligned}$$

4.

$$\left(-\frac{5}{13}, \frac{12}{13} \right)$$



Convert the angle measure from degrees to radians.

5. $\theta = 255^\circ$ 6. $\frac{17\pi}{2}$

$\theta = 10\pi^\circ$

Convert the angle measure from radians to degrees.

7. $\theta = 3$ $\frac{540^\circ}{\pi}$

8. $\theta = \frac{13\pi}{10}$ $9^\circ?$

Find a point (x, y) on any circle that lies on an angle of measure t

10. $t = \frac{\pi}{3}$ $\left(\frac{1}{2}, \frac{\sqrt{3}}{2} \right)$

11. $t = \frac{7\pi}{6}$ $\left(-\frac{\sqrt{3}}{2}, -\frac{1}{2} \right)$

12. $t = \frac{5\pi}{4}$

13. $t = -\frac{5\pi}{2}$ $(0, -1)$

14. $t = -\frac{5\pi}{6}$

15. $t = \frac{10\pi}{3}$ $\left(-\frac{1}{2}, -\frac{\sqrt{3}}{2} \right)$

Find the exact value (if possible) of the six trigonometric functions for the real number θ on the unit circle.

16. $\theta = \frac{5\pi}{4}$

17. $\theta = -\frac{2\pi}{3}$

$$\sin \theta = -\frac{\sqrt{3}}{2} \quad \csc \theta = -\frac{2\sqrt{3}}{3}$$

$$\cos \theta = -\frac{1}{2} \quad \sec \theta = -2$$

$$\tan \theta = \sqrt{3} \quad \cot \theta = \frac{\sqrt{3}}{3}$$

18. $\theta = \pi$

19. $\theta = -\frac{\pi}{2}$

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

$$\cos \theta = 0 \quad \sec \theta = \text{undef}$$

$$\tan \theta = \text{undef} \quad \cot \theta = 0$$

20. $\theta = \frac{7\pi}{6}$

21. $\theta = \frac{11\pi}{6}$

$$\sin \theta = -\frac{1}{2} \quad \csc \theta = -2$$

$$\cos \theta = \frac{\sqrt{3}}{2} \quad \sec \theta = \frac{2\sqrt{3}}{3}$$

$$\tan \theta = -\frac{\sqrt{3}}{3} \quad \cot \theta = -\sqrt{3}$$

Use the value of the trigonometric function to evaluate the indicated function.

$\sin \theta = \frac{2}{3}$, $0 \leq \theta \leq \frac{\pi}{2}$, find:

22. $\cos \theta$

23. $\sec \theta$

24. $\tan \theta$

$$\frac{3}{\sqrt{5}} = \frac{3\sqrt{5}}{5}$$

$\tan \theta = \frac{5}{4}$, $0 \leq \theta \leq \frac{\pi}{2}$ find:

25. $\sin(-\theta)$

26. $\cos(\theta + \pi)$

27. $\tan(\pi - \theta)$

$$\frac{-5}{\sqrt{41}} = \frac{-5\sqrt{41}}{41}$$

$$-\frac{5}{4}$$

Trig Functions - Radians

Find the exact value for each trigonometric function.

1. $\tan \frac{\pi}{3} = \sqrt{3}$	2. $\cos \frac{\pi}{4} = \frac{\sqrt{2}}{2}$	3. $\sin \frac{\pi}{6} = \frac{1}{2}$
4. $\cos \frac{\pi}{2} = 0$	5. $\tan \frac{\pi}{4} = 1$	6. $\sin \frac{\pi}{3} = \frac{\sqrt{3}}{2}$
7. $\cot \frac{\pi}{2} = 0$	8. $\csc \frac{-7\pi}{3} = -\frac{2}{\sqrt{3}} = -\frac{2\sqrt{3}}{3}$	9. $\sec \frac{-3\pi}{4} = \frac{-2}{\sqrt{2}} = -\sqrt{2}$
10. $\tan \frac{-9\pi}{2} = \text{undefined}$	11. $\cot \frac{23\pi}{6} = -\sqrt{3}$	12. $\sec \frac{-10\pi}{3} = -2$
13. $\sin \frac{-23\pi}{6} = \frac{1}{2}$	14. $\csc \frac{-\pi}{4} = -\frac{2}{\sqrt{2}} = -\sqrt{2}$	15. $\cos \frac{13\pi}{3} = \frac{1}{2}$
16. $\cot -\pi = \text{undefined}$	17. $\cos \frac{-7\pi}{4} = \frac{\sqrt{2}}{2}$	18. $\sec \frac{-5\pi}{2} = \text{undefined}$
19. $\sin \frac{5\pi}{3} = -\frac{\sqrt{3}}{2}$	20. $\csc \frac{10\pi}{3} = -\frac{2}{\sqrt{3}} = -\frac{2\sqrt{3}}{3}$	21. $\tan \frac{21\pi}{4} = 1$
22. $\tan \frac{13\pi}{6} = \frac{1}{\sqrt{3}} = \frac{\sqrt{3}}{3}$	23. $\sin \frac{-25\pi}{6} = -\frac{1}{2}$	24. $\sec 3\pi = -1$
25. $\csc \frac{4\pi}{3} = -\frac{2}{\sqrt{3}} = -\frac{2\sqrt{3}}{3}$	26. $\cos \frac{3\pi}{4} = -\frac{\sqrt{2}}{2}$	27. $\csc \frac{14\pi}{3} = \frac{2}{\sqrt{3}} = \frac{2\sqrt{3}}{3}$
28. $\cos \frac{-8\pi}{3} = -\frac{1}{2}$	29. $\tan 4\pi = 0$	30. $\sec \frac{-5\pi}{6} = \frac{-2}{\sqrt{3}} = -\frac{2\sqrt{3}}{3}$