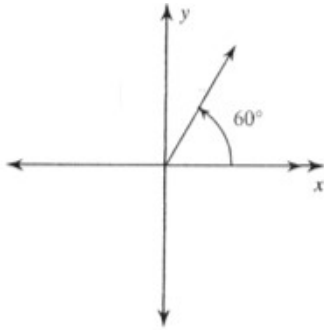


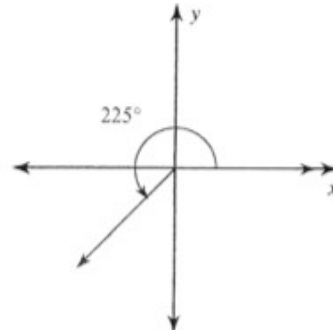
Exact Trig Values of Special Angles

Find the exact value of each trigonometric function.

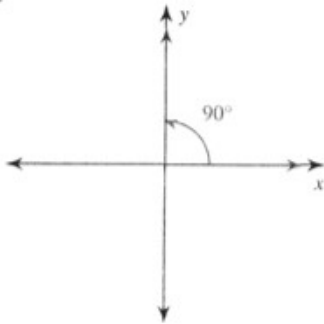
1.  $\tan \theta$



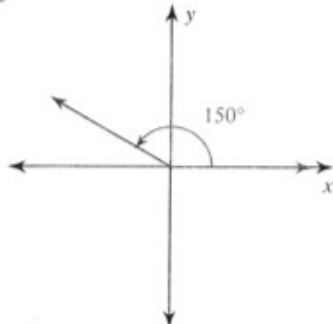
2.  $\sin \theta$



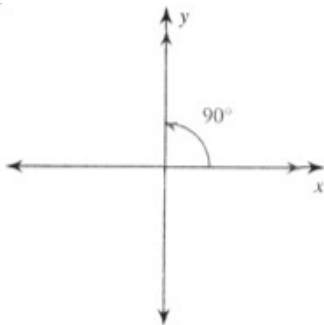
3.  $\sin \theta$



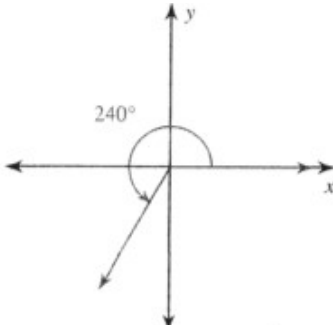
4.  $\cos \theta$



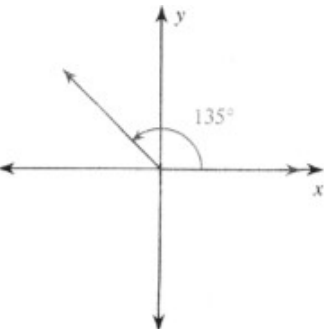
5.  $\cos \theta$



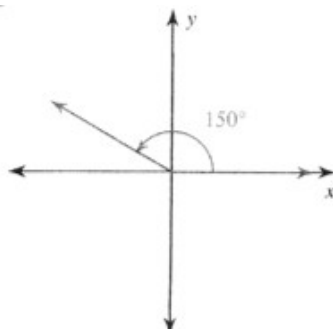
6.  $\tan \theta$



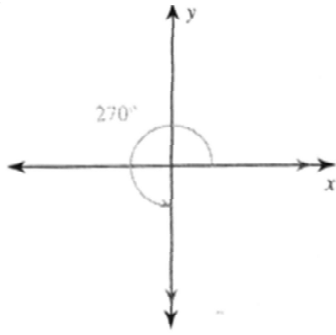
7.  $\cos \theta$



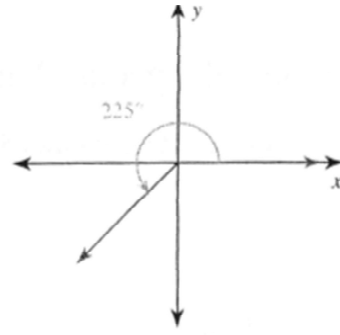
8.  $\tan \theta$



9.  $\cos \theta$



10.  $\tan \theta$



11.  $\cos 270^\circ$

12.  $\sin 0$

13.  $\tan\left(\frac{7\pi}{4}\right)$

14.  $\sin\left(\frac{2\pi}{3}\right)$

15.  $\cos 225^\circ$

16.  $\sin 300^\circ$

17.  $\tan 90^\circ$

18.  $\tan 240^\circ$

19.  $\sin\left(\frac{\pi}{4}\right)$

20.  $\tan 120^\circ$

21.  $\tan\left(\frac{13\pi}{6}\right)$

22.  $\cos 630^\circ$

23.  $\cos 990^\circ$

24.  $\sin(-2\pi)$

25.  $\cos\left(\frac{-11\pi}{2}\right)$

Find one positive and one negative coterminal angle, given:

26)  $-405^\circ$     27)  $\frac{2\pi}{9}$     28)  $-\frac{38\pi}{5}$

29) Rewrite  $\tan 272^\circ$  in terms of a reference angle

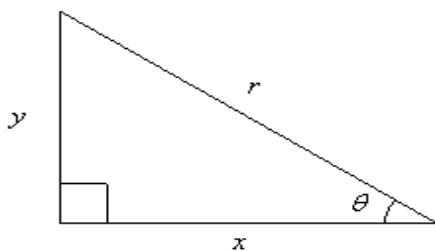
30) Give the coordinates of  $t$  if  $t = -\frac{4\pi}{3}$

31) A circular blade on a saw rotates at 2400 revolutions per minute. **MUST SHOW WORK.**

a) Find the angular speed in radians per second (exact value: terms of  $\pi$ ).

b) The blade has a diameter of 4.28 inches. Find the linear speed of the blade tip in feet per hour. (Round final answer to 3 decimal places)

32) Find the exact value of  $\tan \theta$ , if  $y = 8$  and  $r = 17$



33) A central angle  $\theta$  of a circle with radius 16 inches subtends an arc of 19.36 in.

Find  $\theta$  in degrees. Round 3 decimal places. Hint: Convert between radians and degrees if needed.

Answers:

- 1)  $\sqrt{3}$     2)  $-\frac{\sqrt{2}}{2}$     3) 1    4)  $-\frac{\sqrt{3}}{2}$     5) 0    6)  $\sqrt{3}$     7)  $-\frac{\sqrt{2}}{2}$     8)  $-\frac{\sqrt{3}}{3}$     9) 0  
 10) 1    11) 0    12) 0    13) -1    14)  $\frac{\sqrt{3}}{2}$     15)  $-\frac{\sqrt{2}}{2}$     16)  $-\frac{\sqrt{3}}{2}$     17) Und.    18)  $\sqrt{3}$   
 19)  $\frac{\sqrt{2}}{2}$     20)  $-\sqrt{3}$     21)  $\frac{\sqrt{3}}{3}$     22) 0    23) 0    24) 0    25) 0

Answers :

26)  $-45^\circ$  &  $315^\circ$     27)  $\frac{20\pi}{9}$  &  $-\frac{16\pi}{9}$     28)  $-\frac{8\pi}{5}, \frac{2\pi}{5}$     29)  $-\tan 88^\circ$     30)  $\left(-\frac{1}{2}, \frac{\sqrt{3}}{2}\right)$

31) a)  $80\pi$  rad/sec    b) 161352.199 ft/hr    32)  $\frac{8}{15}$     33)  $69.328^\circ$