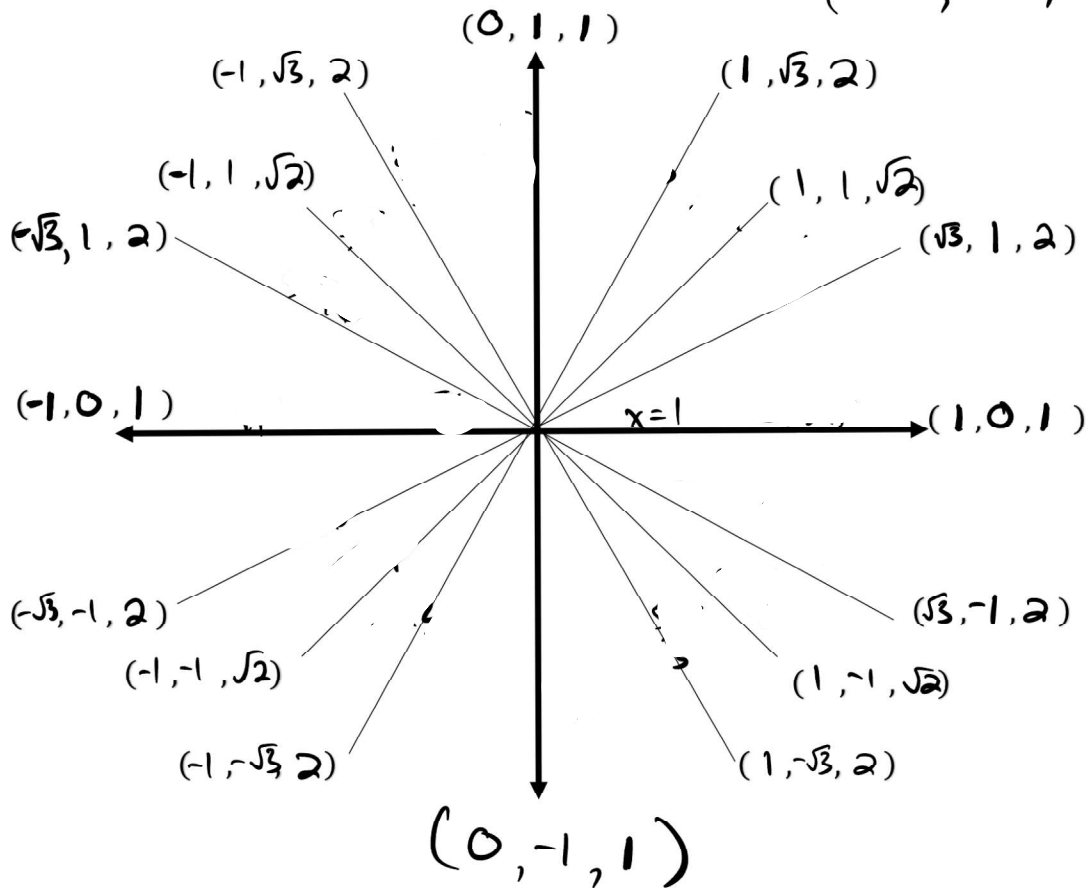


$(x, y, r)$   
(horizontal, vertical, radius)



Find the exact value.		
9. $\sin 90^\circ = 1$	10. $\cos 120^\circ = -\frac{1}{2}$	11. $\tan 45^\circ = 1$
12. $\tan 120^\circ = \frac{\sqrt{3}}{-\frac{1}{2}} = -\sqrt{3}$	13. $\cos 225^\circ = -\frac{\sqrt{2}}{2}$	14. $\sin 135^\circ = \frac{\sqrt{2}}{2}$
15. $\sin 330^\circ = -\frac{1}{2}$	16. $\tan 315^\circ = -1$	17. $\cos 240^\circ = -\frac{1}{2}$
18. $\sin(-225^\circ) = \frac{\sqrt{2}}{2}$	19. $\cos(-240^\circ) = -\frac{1}{2}$	20. $\tan(-300^\circ) = \frac{\sqrt{3}}{\frac{1}{2}} = \sqrt{3}$

If $0^\circ \leq \theta \leq 360^\circ$ , then find $\theta$		
39. $\sin \theta = \frac{1}{2}$ $\theta = 30^\circ, 150^\circ$	40. $\cos \theta = \frac{\sqrt{3}}{2}$ $\theta = 30^\circ, 330^\circ$	41. $\tan \theta = -\sqrt{3}$ $\theta = 120^\circ, 300^\circ$
42. $\sin \theta = \frac{\sqrt{2}}{2}$ $\theta = 45^\circ, 135^\circ$	43. $\cos \theta = -\frac{\sqrt{2}}{2}$ $\theta = 135^\circ, 225^\circ$	44. $\tan \theta = -\frac{\sqrt{3}}{3}$ $\theta = 150^\circ, 330^\circ$

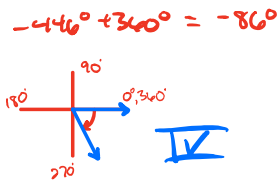
# The Trigonometric Functions

Review

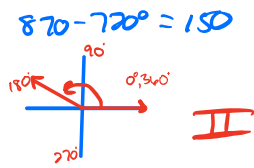
Name \_\_\_\_\_

**State the quadrant in which the terminal side of each angle lies.**

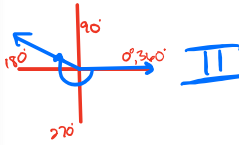
9.  $-446^\circ$



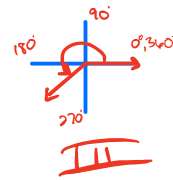
10.  $870^\circ$



11.  $-190^\circ$



12.  $215^\circ$



**Find one positive and one negative coterminal angle the angle given.**

13.  $30^\circ$

+ Coterminal  $L : 30^\circ + 360^\circ = 390^\circ$   
 - Coterminal  $L : 30^\circ - 360^\circ = -330^\circ$

14.  $-705^\circ$

+ Coterminal  $L : -705^\circ + 720^\circ = 15^\circ$   
 - Coterminal  $L : -705^\circ + 360^\circ = -345^\circ$

**Convert each radian measure into degrees.**

23.  $-\frac{5\pi}{9}$

$-\frac{5\pi}{9} \cdot \frac{180^\circ}{\pi} = -100^\circ$

24.  $\frac{5\pi}{6}$

$\frac{5\pi}{6} \cdot \frac{180^\circ}{\pi} = 150^\circ$

25.  $\frac{23\pi}{36}$

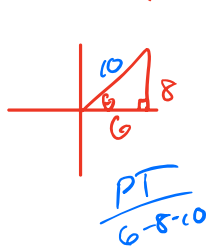
$\frac{23\pi}{36} \cdot \frac{180^\circ}{\pi} = 115^\circ$

26.  $\frac{79\pi}{18}$

$\frac{79\pi}{18} \cdot \frac{180^\circ}{\pi} = 790^\circ$

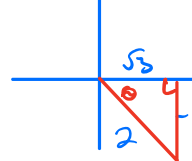
**Draw the reference triangle. Find the EXACT value of the trig ratio for  $\theta$ .**

11.  $\sin \theta$  for  $(6, 8)$



$\sin \theta = \frac{8}{10}$

12.  $\cos \theta$  for  $(\sqrt{3}, -1)$

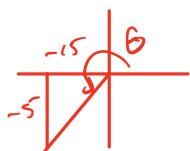


$\cos \theta = \frac{\sqrt{3}}{2}$

special  $\Delta$   
 $30^\circ-60^\circ-90^\circ$

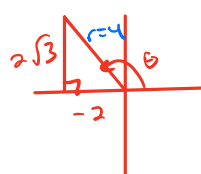
$x^2 + y^2 = r^2$   
 $(\sqrt{3})^2 + (-1)^2 = r^2$   
 $3 + 1 = r^2$   
 $4 = r^2$   
 $\pm 2 = r$

13.  $\tan \theta$  for  $(-15, -5)$



$\tan \theta = \frac{-5}{-15}$

14.  $\sin \theta$  for  $(-2, 2\sqrt{3})$



$\sin \theta = \frac{2\sqrt{3}}{4}$

$(-2)^2 + (2\sqrt{3})^2 = r^2$   
 $4 + 4 \cdot 3 = r^2$   
 $4 + 12 = r^2$   
 $16 = r^2$   
 $\pm 4 = r$