Inverse Trig Values

Find the exact value

1. $\sin^{-1}\left(\frac{1}{2}\right) = 30^\circ$ $\frac{\pi}{6}$

2. $\sin^{-1}\left(\frac{\sqrt{2}}{2}\right) = 45^\circ$ $\frac{\pi}{4}$

3. $\sin^{-1}\left(\frac{\sqrt{3}}{2}\right) = 60$ $\frac{\pi}{3}$

4. $\sin^{-1}\left(\frac{-1}{2}\right) = -30^\circ$ $-\frac{\pi}{6}$

5. $\sin^{-1}\left(\frac{-\sqrt{2}}{2}\right) = -45^\circ$ $-\frac{\pi}{4}$

6. $\sin^{-1}\left(\frac{-\sqrt{3}}{2}\right) = -60^\circ$ $-\frac{\pi}{3}$

7. $\sin^{-1}(0) = 0^\circ$ 0

8. $\sin^{-1}(1) = 90^\circ$ $\frac{\pi}{2}$

9. $\sin^{-1}(-1) = -90^\circ$ $-\frac{\pi}{2}$

Find the exact value

1. $\cos^{-1}\left(\frac{1}{2}\right) = 60^\circ \quad \frac{\pi}{3}$

2. $\cos^{-1}\left(\frac{\sqrt{2}}{2}\right) = 45^\circ \quad \frac{\pi}{4}$

3. $\cos^{-1}\left(\frac{\sqrt{3}}{2}\right) = 30^\circ \quad \frac{\pi}{6}$

4. $\cos^{-1}\left(\frac{-1}{2}\right) = 120^\circ \quad \frac{2\pi}{3}$

5. $\cos^{-1}\left(\frac{-\sqrt{2}}{2}\right) = 135^\circ \quad \frac{3\pi}{4}$

6. $\cos^{-1}\left(\frac{-\sqrt{3}}{2}\right) = 150^\circ \quad \frac{5\pi}{6}$

7. $\cos^{-1}(0) = 90^\circ \quad \frac{\pi}{2}$

8. $\cos^{-1}(1) = 0^\circ \quad 0$

9. $\cos^{-1}(-1) = 180^\circ \quad \pi$

Find the exact value (Find the angle)

1. $\tan^{-1}\left(\frac{1}{\sqrt{3}}\right) = 30^\circ$ $\frac{\pi}{6}$

2. $\tan^{-1}(1) = 45^\circ$ $\frac{\pi}{4}$

3. $\tan^{-1}\left(\sqrt{3}\right) = 60^\circ$ $\frac{\pi}{3}$

4. $\tan^{-1}\left(\frac{-1}{\sqrt{3}}\right) = = -30^\circ, -\frac{\pi}{6}$

5. $\tan^{-1}(-1) = -45^\circ, -\frac{\pi}{4}$

6. $\tan^{-1}\left(-\sqrt{3}\right) = -60, -\frac{\pi}{3}$

7. $\tan^{-1}\left(\frac{\sqrt{3}}{3}\right) = 30^\circ, \frac{\pi}{6}$

8. $\tan^{-1}\left(\frac{-\sqrt{3}}{3}\right) = -30^\circ, -\frac{\pi}{6}$

9. $\tan^{-1}(0) = 0^\circ$ 0

$\frac{y}{x}$

30° $\left(\frac{\sqrt{3}}{2}, \frac{1}{2}\right)$

$\frac{\frac{1}{\cancel{2}} \cdot \frac{\cancel{2}}{\sqrt{3}}}{\frac{\sqrt{3}}{2}}$

$\boxed{\frac{1}{\sqrt{3}} \quad \frac{\sqrt{3}}{3}}$

$\tan 45^\circ = 1$

$(1, 0)$

$\frac{0}{1} = 0$

60 $\left(\frac{1}{2}, \frac{\sqrt{3}}{2}\right)$

$\frac{\frac{\sqrt{3}}{\cancel{2}} \cdot \frac{\cancel{2}}{1}}{\frac{1}{2}} = \boxed{\sqrt{3}}$