Name : _____

Inverse Trigonometric Ratios

Using Charts: S1

A) Find the value of each inverse trigonometric ratio in degrees.

1) $\sin^{-1}(1)$ _____

2) $\tan^{-1}\left(\frac{\sqrt{3}}{3}\right)$ _____

3) $\cos^{-1}(1)$ _____

4) $\cot^{-1}\left(\frac{\sqrt{3}}{3}\right)$ _____

5) $\sec^{-1}(\sqrt{2})$ _____

6) $\csc^{-1}(2)$ _____

B) Find the exact value of each inverse trigonometric ratio in radians.

7) $\csc^{-1}\left(\frac{2\sqrt{3}}{3}\right)$ _____

8) $\tan^{-1}(1)$ _____

9) $\cos^{-1}\left(\frac{\sqrt{2}}{2}\right)$ _____

10) $\sec^{-1}(1)$ _____

11) $\sin^{-1}\left(\frac{1}{2}\right)$ _____

12) $\cot^{-1}(0)$ _____

Name : _____ **Answer key**

Inverse Trigonometric Ratios

Using Charts: S1

A) Find the value of each inverse trigonometric ratio in degrees.

1) $\sin^{-1}(1)$ — **90^{o}**

2) $\tan^{-1}\left(\frac{\sqrt{3}}{3}\right)$ — **30^{o}**

3) $\cos^{-1}(1)$ — **0^{o}**

4) $\cot^{-1}\left(\frac{\sqrt{3}}{3}\right)$ — **60^{o}**

5) $\sec^{-1}(\sqrt{2})$ — **45^{o}**

6) $\csc^{-1}(2)$ — **30^{o}**

B) Find the exact value of each inverse trigonometric ratio in radians.

7) $\csc^{-1}\left(\frac{2\sqrt{3}}{3}\right)$ — **$\frac{\pi}{3}$**

8) $\tan^{-1}(1)$ — **$\frac{\pi}{4}$**

9) $\cos^{-1}\left(\frac{\sqrt{2}}{2}\right)$ — **$\frac{\pi}{4}$**

10) $\sec^{-1}(1)$ — **0**

11) $\sin^{-1}\left(\frac{1}{2}\right)$ — **$\frac{\pi}{6}$**

12) $\cot^{-1}(0)$ — **$\frac{\pi}{2}$**