

NAME: \_\_\_\_\_

*P.I. A2.A.64: Use inverse functions to find the measure of an angle, given its sine, cosine, or tangent*

1. Find the value of  $\sin^{-1}\left(-\frac{1}{2}\right)$ . Express your answer in degrees.

2. Find the value of  $\sin^{-1}\left(\frac{\sqrt{3}}{2}\right)$ . Express your answer in degrees.

3. Find the value of  $\sin^{-1}\left(-\frac{\sqrt{2}}{2}\right)$ . Express your answer in degrees.

4. Find the value of  $\cos^{-1}\left(\frac{1}{2}\right)$ . Express your answer in degrees.

5. Find the value of  $\cos^{-1}\left(-\frac{1}{2}\right)$ . Express your answer in degrees.

6. Find the value of  $\cos^{-1}\left(-\frac{\sqrt{3}}{2}\right)$ . Express your answer in degrees.

7. Find the value of  $\cos^{-1}\left(-\frac{\sqrt{2}}{2}\right)$ . Express your answer in degrees.

8. Find each angle in the interval from  $0^\circ$  to  $90^\circ$  to the nearest tenth.

a.  $\sin^{-1} 0.25$

b.  $\cos^{-1} \frac{1}{8}$

c.  $\tan^{-1} 2\sqrt{3}$

9. Compare the quantity in Column A with the quantity in Column B.

Column A

$A = \cos^{-1} 0.8$

Column B

$B = \sin^{-1} 0.8$

$0 < A < \frac{\pi}{2}$

$0 < B < \frac{\pi}{2}$

[A] The quantity in Column A is greater.

[B] The quantity in Column B is greater.

[C] The two quantities are equal.

[D] The relationship cannot be determined on the basis of the information supplied.

[1]  $-30^\circ$  \_\_\_\_\_

[2]  $60^\circ$  \_\_\_\_\_

[3]  $-45^\circ$  \_\_\_\_\_

[4]  $60^\circ$  \_\_\_\_\_

[5]  $120^\circ$  \_\_\_\_\_

[6]  $150^\circ$  \_\_\_\_\_

[7]  $135^\circ$  \_\_\_\_\_

[8] a.  $14.5^\circ$  ; b.  $82.8^\circ$  ; c.  $73.9^\circ$  \_\_\_\_\_

[9] B \_\_\_\_\_