

Trigonometry (H)
Sections 6.7 – 6.8 Pretest
Mr. Roy

Name Key
 Date _____
 Period _____

Evaluate each of the following.

1. $y = \text{Arcsin } \sqrt{3}/2$ $60^\circ, 120^\circ$

$\sin y = \frac{\sqrt{3}}{2}$
 $y = 60^\circ, 120^\circ$

2. $y = \sin[\text{Arccos}(1/2)]$ $\frac{\sqrt{3}}{2}$

$y = \sin(60)$
 $y = \frac{\sqrt{3}}{2}$

3. $y = \tan(\text{Cos}^{-1} 0 + \text{Sin}^{-1} 1/2)$ $-\sqrt{3}$

$y = \tan(90 + 30)$
 $y = \tan 120$
 $y = -\sqrt{3}$

4. $y = \sin[\pi/2 - \text{Sin}^{-1}(1/2)]$ $\frac{\sqrt{3}}{2}$

$y = \sin(90 - 30)$
 $y = \sin(60)$

Find all of the values of x in degrees, $0 \leq x \leq 360$, for which each of the following is true.

5. $\cot x = 0$ $90^\circ, 270^\circ$

6. $\csc x = \text{undefined}$ $0^\circ, 180^\circ$

State the amplitude, period, and phase shift for each of the following.

7. $y = 2\tan(1/2\theta - \pi/4)$ amplitude = 2, period = 2π , phase shift = $\frac{\pi}{2}$
 period = $\frac{\pi}{1/2} = 2\pi$ P.S. = $\frac{\pi/4}{1/2} = \frac{\pi}{4} \times \frac{2}{1} = \frac{\pi}{2}$

8. $y = 1/4 \csc(2\theta + 3\pi/4)$ amplitude = $1/4$, period = π , phase shift = $-\frac{3\pi}{8}$
 period = $\frac{2\pi}{2} = \pi$
 P.S. = $-\frac{3\pi/4}{2} = -\frac{3\pi}{4} \cdot \frac{1}{2} = -\frac{3\pi}{8}$

Write the equation for the inverse of each function.

9. $y = \sin 2x$ $y = \frac{1}{2} \arcsin x$

$x = \sin 2y$
 $\sin^{-1} x = 2y$
 $\frac{\sin^{-1} x}{2} = y$

10. $y = \text{Arccos } x - \pi/2$ $y = \cos(x + \frac{\pi}{2})$

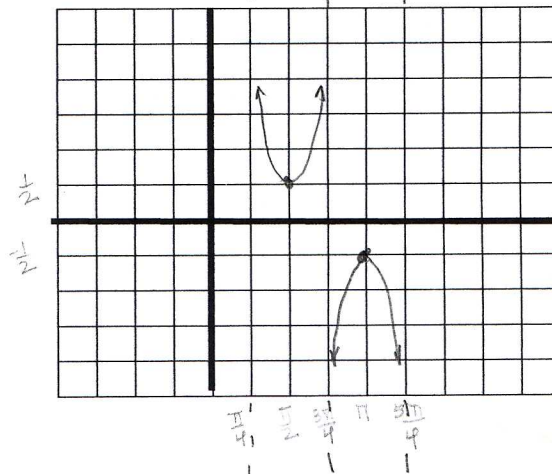
$y + \frac{\pi}{2} = \text{Arccos } x$
 $\cos(y + \frac{\pi}{2}) = x$ $\cos(x + \frac{\pi}{2}) = y$

Graph each function for the designated domain. Show your work for all coordinates of principal values.

11. $y = \frac{1}{2} \csc(2\theta - \frac{\pi}{2})$

$\frac{\pi}{4} \leq \theta \leq \frac{5\pi}{4}$

$\frac{\pi}{4}$	—
$\frac{\pi}{2}$	$\frac{1}{2}$
$\frac{3\pi}{4}$	—
π	$-\frac{1}{2}$
$\frac{5\pi}{4}$	—



12. $y = \text{Arcsin } 2x$ $-\frac{\pi}{2} \leq y \leq \frac{\pi}{2}$

x	y
0	$-\frac{\pi}{2}$
-1	$-\frac{\pi}{4}$
0	0
1	$\frac{\pi}{4}$
0	$\frac{\pi}{2}$

$\frac{\pi}{2}$
 $\frac{\pi}{4}$
 0
 $-\frac{\pi}{4}$
 $-\frac{\pi}{2}$

