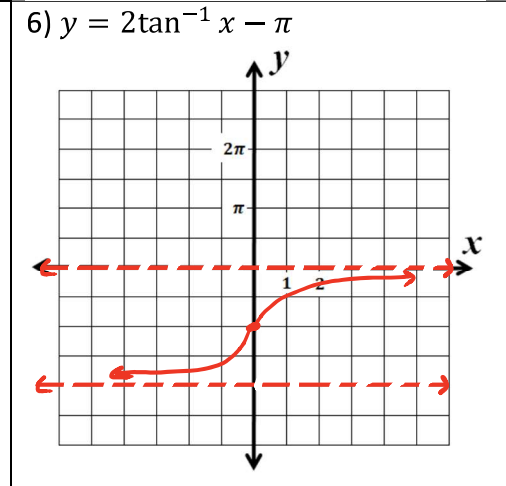
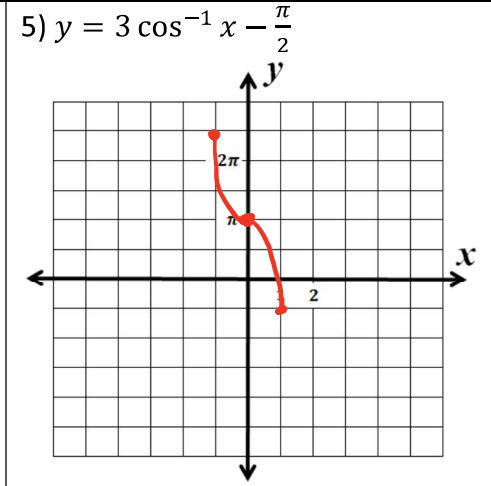
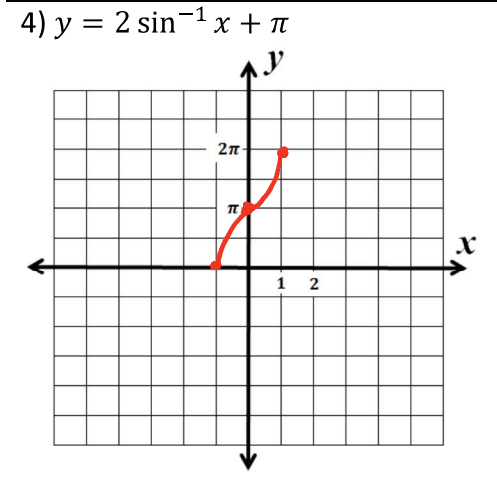
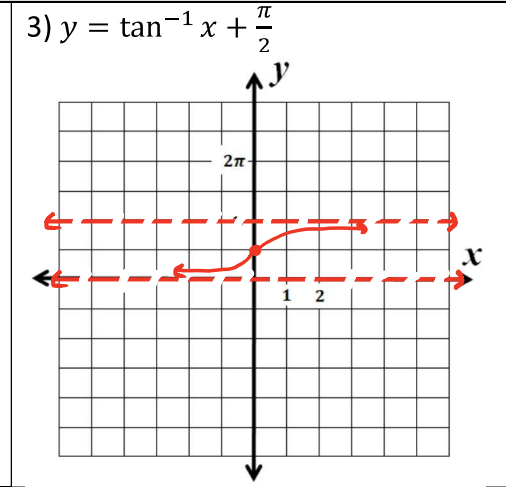
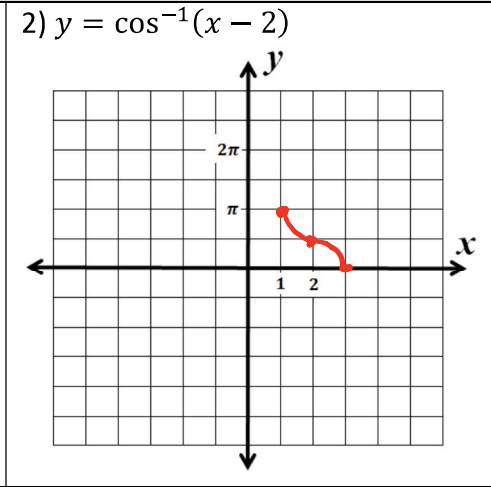
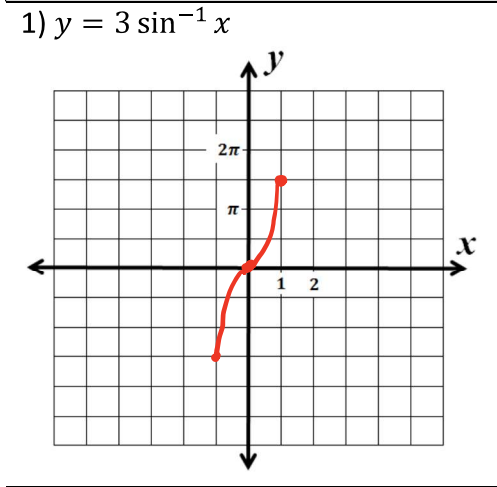


# 10.4 CA – Inverse Trig Functions

Name: \_\_\_\_\_

Pre-Calculus

**For 1-6, graph the function.**



**For 7-14, find the exact value of the expression. Do not use a calculator! (radians or degrees both work)**

7)  $\sin(\operatorname{arccsc}(\frac{2\sqrt{3}}{3})) = \frac{\sqrt{3}}{2}$

8)  $\cos(\arcsin(\frac{\sqrt{2}}{2})) = \pm \frac{\sqrt{2}}{2}$

9)  $\cos(\arccos(\frac{1}{2})) = \frac{1}{2}$

Recip

10)  $\tan(\arcsin(\frac{\sqrt{2}}{2})) = \pm 1$

11)  $\sec(\arctan(\frac{\sqrt{3}}{3})) = \pm \frac{2\sqrt{3}}{3}$

12)  $\sin(\operatorname{arcsin}(\frac{\sqrt{3}}{2})) = \frac{\sqrt{3}}{2}$

13)  $\cos(\operatorname{arcsec}(2)) = \frac{1}{2}$

14)  $\csc(\arctan(\sqrt{3})) = \pm \frac{2\sqrt{3}}{3}$

**For 15-22, find the approximate value of the expression by using a calculator. Round to three decimals. Only one answer is necessary. Assume degrees for inverse functions.**

15)  $\sin^{-1}(\frac{3}{4}) \approx 48.59^\circ$

16)  $\sec(56^\circ) \approx 1.788$

$\frac{1}{\cos(56^\circ)}$

17)  $\operatorname{arcsec}(\frac{21}{20}) \approx 17.753^\circ$

$\cos^{-1}(\frac{20}{21})$

18)  $\sec(\frac{1}{5}) \approx 1.02$

$\frac{1}{\cos(\frac{1}{5})}$

RAD!

19)  $\cot\left(\frac{7}{3}\right) \approx -0.955$

$\frac{1}{\tan\left(\frac{7}{3}\right)}$

RAD!

20)  $\cot^{-1}\left(\frac{7}{3}\right) \approx 23.199^\circ$

$\tan^{-1}\left(\frac{3}{7}\right)$

21)  $\operatorname{arccsc}(2.1) \approx 28.437^\circ$

$\sin^{-1}\left(\frac{1}{2.1}\right)$

22)  $\sec^{-1}(5) \approx 78.463^\circ$

$\cos^{-1}\left(\frac{1}{5}\right)$

For 23-26, use a reference triangle to find the exact value of the expression.

23)  $\tan\left(\sin^{-1}\left(\frac{4}{11}\right)\right)$

$= \pm \frac{4\sqrt{105}}{105}$



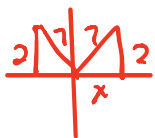
$\tan \theta = \frac{4}{x}$

$x^2 + 4^2 = r^2$   
 $x^2 + (4)^2 = (11)^2$

$x^2 + 16 = 121$   
 $x^2 = 105$   
 $x = \pm \sqrt{105}$

$\tan \theta = \frac{\pm 4\sqrt{105}}{105}$

24)  $\sec\left(\operatorname{arccsc}\left(\frac{7}{2}\right)\right) = \pm \frac{7\sqrt{5}}{15}$



$\sec \theta = \frac{7}{\pm 3\sqrt{5}}$

$= \pm \frac{7\sqrt{5}}{15}$

$x^2 + 7^2 = r^2$   
 $x^2 + (2)^2 = (7)^2$   
 $x^2 + 4 = 49$   
 $x^2 = 45$   
 $x = \pm 3\sqrt{5}$

25)  $\csc\left(\cot^{-1}\left(\frac{5}{6}\right)\right) = \pm \frac{\sqrt{61}}{6}$



$\csc \theta = \frac{\sqrt{61}}{\pm 6}$

$x^2 + 5^2 = r^2$   
 $(5)^2 + (6)^2 = r^2$   
 $25 + 36 = r^2$   
 $61 = r^2$   
 $\pm \sqrt{61} = r$   
 $\sqrt{61} = r$

26)  $\sec\left(\sin^{-1}\left(\frac{3}{7}\right)\right) = \pm \frac{7\sqrt{10}}{20}$



$\sec \theta = \frac{7}{\pm 2\sqrt{10}}$

$x^2 + 3^2 = r^2$   
 $x^2 + (3)^2 = (7)^2$   
 $x^2 + 9 = 49$   
 $x^2 = 40$   
 $x = \pm \sqrt{40}$   
 $x = \pm 2\sqrt{10}$

## Answers to 10.4 Corrective Assignment

1)	2)	3)	
4)	5)	6)	
7) $\frac{\sqrt{3}}{2}$	8) $\frac{\sqrt{2}}{2}$	9) $\frac{1}{2}$	10) 1
11) $\frac{2\sqrt{3}}{3}$	12) $\frac{\sqrt{3}}{2}$	13) $\frac{1}{2}$	14) $\frac{2\sqrt{3}}{3}$
15) $48.59^\circ$	16) 1.788	17) 17.753	18) 1.02 (use radians!)
19) -0.955 (use radians!)	20) $23.199^\circ$	21) $28.437^\circ$	22) $78.463^\circ$
23) $\frac{4}{\sqrt{105}} = \frac{4\sqrt{105}}{105}$	24) $\frac{7}{\sqrt{45}} = \frac{7}{3\sqrt{5}} = \frac{7\sqrt{5}}{15}$	25) $\frac{\sqrt{61}}{6}$	26) $\frac{7}{2\sqrt{10}} = \frac{7\sqrt{10}}{20}$