

**Inverse Trigonometric Functions (4.7):** Find the exact value of each function without a calculator.

1.  $\tan^{-1}(-\sqrt{3})$

2.  $\operatorname{arcsec}(\sqrt{2})$

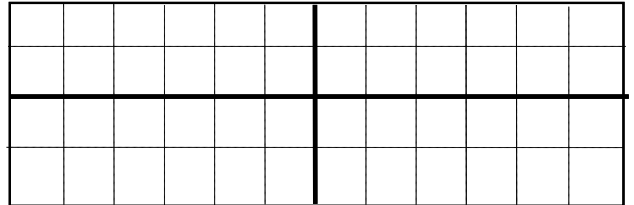
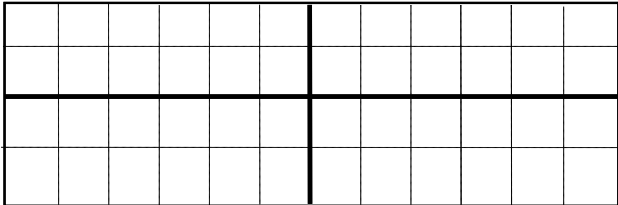
3.  $\cos^{-1}\left(\sin\frac{7\pi}{6}\right)$

4.  $\tan\left(\arccos\left(-\frac{3}{5}\right)\right)$

**Inverse Trigonometric Functions (4.7):** Graph.

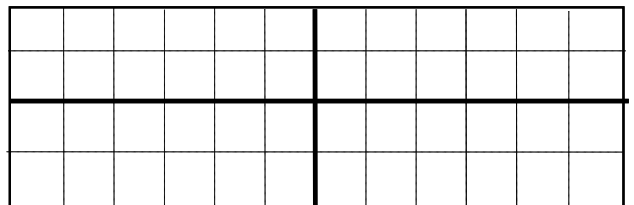
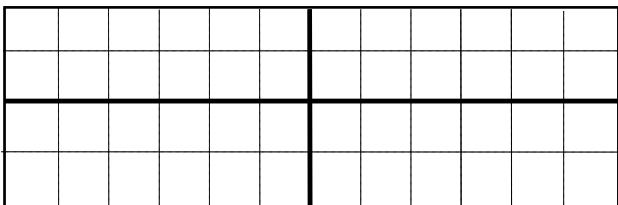
5.  $y = \sin^{-1}(x+1)$

6.  $y = 2 \arctan x$



7.  $y = \arccos\left(\frac{x}{2}\right)$

8.  $y = \tan^{-1}(x-2)$



**Trigonometric Derivatives:** *Differentiate.*

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

10.  $f(x) = 3e^x + \sec x$

**Higher Derivatives:** *Find the second derivative.*

11.  $y = \frac{2x}{3 \sin x}$

12.  $y = \frac{2x^2}{(x-1)^2}$

**Tangent Lines:** *Find the equation of the tangent line at the given point on the curve.*

13.  $y = \frac{x}{x+1}$  at  $x = 3$

14.  $f(x) = 3 \cos x - 1$  at  $f(0)$