

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

## Inverse Trigonometric Function Differentiation

**Exercise 1:** Differentiate:

1)  $y = \cos^{-1} 2x$

2)  $y = \tan^{-1} 3x$

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

4)  $y = \sec^{-1} 5x$

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

6)  $y = \sec^{-1} \frac{x}{2}$

7)  $y = \tan^{-1} \frac{x-1}{x+1}$

8)  $y = \tan^{-1} \sqrt{x}$

9)  $y = \tan^{-1}(\ln x)$

10)  $y = \sin^{-1} \frac{x-1}{x+1}$

11)  $y = x \cos^{-1} x$

12)  $y = \tan^{-1} e^x$

13)  $y = \tan^{-1} \frac{1}{x}$

14)  $y = \cos^{-1} e^{-x}$

15)  $y = \arcsin(x^2)$

16)  $y = \arccos(\sqrt{x})$

17)  $y = \arctan(4x)$

18)  $y = \arctan(x) x^3$