Name:_____

Calculus

Derivative Progression C: Chain Rule (with trig functions and square roots)

Find the derivative of each function ($\frac{dy}{dx}$)

1) $y = e$

2) $y = 4x^6 + 3x^2$

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

4) $y = 6\sqrt{x}$

5) $y = (x^2 + 3x)^3$

6) $y = \sqrt{x^2 + 4x}$

7) $y = \frac{1}{\sqrt{x^2 + 4x}}$

8) $y = \sin x$

9) $y = \sin(x^2)$

10) $y = (\sin x)^2$

11) $y = \sin x^2$

12) $y = \sin^2 x$

13) $y = \cos 3x$

14) $y = \tan \frac{x}{5}$

15) $y = \tan \frac{5}{x}$

16) $y = \cos \sqrt{x^2 + 3x}$