

Find the derivative:

1.  $y = \frac{3x - 1}{2x + 1}$

2.  $y = \frac{x^3 + 1}{x + 2}$

3.  $y = \frac{x}{x + \frac{2}{x}}$

4.  $y = \frac{cx}{1 + cx}$

5.  $y = \frac{5x - 4}{3x^1 + 1}$

6.  $y = 3\sin(x) - 5\cos(x)$

6.  $y = \frac{\cos(x)}{x}$

7.  $y = x^2 \sin(x)$

8.  $y = 4x^3\sqrt{x}$

9.  $y = x^2 \tan(x)$

10.  $y = \frac{2x \sin(x)}{\sqrt{x}}$

11.  $y = x^{\frac{1}{4}}(x^2 - 5x + 7)$

12. Write the equation of the tangent line of  $y = \tan(x)$  at  $x = \frac{\pi}{4}$ .13. Write the equation of the tangent line of  $y = x \sin(x)$  at  $x = \pi$ .