

### Differentiation - Chain Rule - Power

Find  $f'(x)$ .

1.  $f(x) = (3x^4 - \cos x + 2e^{7x} - 17 \ln x)^5$

2.  $f(x) = (\ln x)^3$

3.  $f(x) = 5 (\sin^{-1} x)^4$

4.  $f(x) = (3x+1)^4$

5.  $f(x) = \frac{1}{3x+1}$

$$6. f(x) = \frac{1}{(3x+1)^2}$$

$$7. f(x) = \frac{1}{x^2+1}$$

$$8. f(x) = \frac{1}{5(x^2+1)^2}$$

$$9. f(x) = \frac{1}{7(x^2+1)^3}$$

$$10. f(x) = \frac{1}{(x^2+1)^4}$$