

Practice 08

Find the derivative.

1) Find  $f'(x)$  for  $f(x) = (8x - 9)^{-4}$ .

A)  $-\frac{32}{(8x - 9)^3}$

B)  $-\frac{32}{(8x - 9)^5}$

C)  $-\frac{4}{(8x - 9)^3}$

D)  $-\frac{4}{(8x - 9)^5}$

1) \_\_\_\_\_

2) Find:  $\frac{d}{dx} \left( \sqrt[8]{8x^7 - 10} \right)$

A)  $\frac{7x^6}{(8x^7 - 10)^{7/8}}$

B)  $\frac{56x^6}{(8x^7 - 10)^{7/8}}$

C)  $8\sqrt[7]{8x^7 - 10}$

D)  $448x^6\sqrt[7]{8x^7 - 10}$

2) \_\_\_\_\_

3) Find  $f'(x)$  for  $f(x) = (4x^2 + 3x)^2$ .

A)  $f'(x) = 32x^3 + 36x^2 + 9x$

B)  $f'(x) = 32x^3 + 36x^2 + 18x$

C)  $f'(x) = 64x^3 + 72x^2 + 18x$

D)  $f'(x) = 64x^3 + 36x^2 + 18x$

3) \_\_\_\_\_

Provide an appropriate response.

4) Find  $f'(x)$  for  $f(x) = (x^2 + 2)^3$ .

A)  $f'(x) = 6x^5 + 24x^3 + 24x$

B)  $f'(x) = 6x^5 + 20x^3 + 24x$

C)  $f'(x) = 3x^5 + 24x^3 + 24x$

D)  $f'(x) = 6x^5 + 12x^3 + 12x$

4) \_\_\_\_\_

5) Find  $\frac{dy}{dt}$  for  $y = (5t^2 - 4t)^2$ .

A)  $2(5t^2 - 4t) + (10t - 4)$

B)  $2(5t^2 - 4t)(10t - 4)$

C)  $(5t^2 - 4t)(10t - 4)$

D)  $2(10t - 4)$

5) \_\_\_\_\_

6) Find  $\frac{dy}{dx}$  for  $y = 17x^{-1}$

A)  $17x^{-1} \ln(17x^{-1})$

B)  $17x^{-1} \ln(17)$

C)  $17 \ln(17)$

D)  $17x^{-1} \ln(x)$

6) \_\_\_\_\_

Find the derivative of the function.

7)  $y = (1 + 7x)e^{-7x}$

A)  $-49xe^{-7x}$

B)  $-49e^{-7x}$

C)  $-7(1 + 7x)e^{-7x}$

D)  $7xe^{-7x}$

7) \_\_\_\_\_

Find  $dy/dt$ .

8)  $y = t^9(t^5 - 8)^3$

A)  $t^9(t^5 - 8)^2(24t^4 - 72)$

B)  $135t^{43}(t^5 - 8)^2$

C)  $9t^8(t^5 - 8)^2(15t^5 - 8)$

D)  $t^8(t^5 - 8)^2(24t^5 - 72)$

8) \_\_\_\_\_

Answer Key

Testname: PRACTICE09

- 1) B
- 2) A
- 3) C
- 4) A
- 5) B
- 6) B
- 7) A
- 8) D