

## Differentiation Quiz B

Use the rules for differentiation to find  $\frac{dy}{dx}$  (no t's in your answers.)

1.  $y = 2x^3 - 4x + 21$

1. \_\_\_\_\_

2.  $y = u^3, \quad u = \tan v, \quad v = x^4 - 1$

2. \_\_\_\_\_

3.  $y = \log x - 2^x - \sec x + (2x + 5)^3$

3. \_\_\_\_\_

4.  $y = \tan t, \quad x = \sin t$

4. \_\_\_\_\_

5.  $y = \cos^2(3x + 4)$

6.  $x^2 + 3xy + 2y^2 = 212$

5. \_\_\_\_\_

7.  $y = \frac{3}{(x - 4)^2}$

6. \_\_\_\_\_

8.  $y = (3x + 4)^5(2x - 1)$

7. \_\_\_\_\_

9.  $y = \sin^3(x^2 + 3)$

8. \_\_\_\_\_

10.  $e^{2x}y = (\tan x)$

9. \_\_\_\_\_

10. \_\_\_\_\_

## Answers

1.  $6x^2 - 4$

2.  $12x^3 \tan^2(x^4 - 1) \sec^2(x^4 - 1)$

3.  $\frac{1}{x \ln 10} - 2^x \ln 2 - \sec x \tan x + 6(2x + 5)^2$

4.  $\sec^3 t = \frac{1}{(1 - x^2)^{3/2}}$

5.  $-6 \cos(3x + 4) \sin(3x + 4)$

6.  $\frac{-2x - 3y}{3x + 4y}$

7.  $-6(x - 4)^{-3}$

8.  $(3x + 4)^4 [36x - 7]$

9.  $6x \sin^2(x^2 + 3) \cos(x^2 + 3)$

10.  $\frac{\sec^2 x - 2e^{2x} y}{e^{2x}}$

# Differentiation Quiz B

## Non-Parametric

Use the rules for differentiation to find  $\frac{dy}{dx}$  (no t's in your answers.)

1.  $y = 2x^3 - 4x + 21$

1. \_\_\_\_\_

2.  $y = \tan^3(x^4 - 1)$

2. \_\_\_\_\_

3.  $y = \log x - 2^x - \sec x + (2x + 5)^3$

3. \_\_\_\_\_

4.  $y = \tan(\arcsin x)$

4. \_\_\_\_\_

5.  $y = \cos^2(3x + 4)$

6.  $x^2 + 3xy + 2y^2 = 212$

5. \_\_\_\_\_

7.  $y = \frac{3}{(x - 4)^2}$

6. \_\_\_\_\_

8.  $y = (3x + 4)^5(2x - 1)$

7. \_\_\_\_\_

9.  $y = \sin^3(x^2 + 3)$

8. \_\_\_\_\_

10.  $e^{2x}y = (\tan x)$

9. \_\_\_\_\_

10. \_\_\_\_\_