

Ejercicios 3.1 Respuestas.

1. $y' = 6x - 5$.

2. $\frac{d}{dx}y = 2x^{-1/3} + 2x^{-1/5} - 36x^{-4} - x^{-1/5}$.

3. $f'(x) = 7 - \frac{1}{2\sqrt{x}}$.

4. $\frac{d}{dx}y = 4x^3 - 3x^2 - 8x + 9$.

5. $S'(t) = 5t^2$.

6. $\frac{d}{du}z = -8u^{-9}$.

7. $f'(\theta) = 0$

8. $\frac{d}{dw}y = \frac{5}{3}w^{2/3}$.

9. $\frac{d}{ds}w = -\frac{2}{(s-1)^2}$.

10. $g'(x) = (18x^2 - 6)(x^3 - x)^5$.

11. $\frac{d}{dt}s = \frac{3}{2}(2t+1)^2(22t+9)\sqrt{(3t+2)^3}$.

12. $y' = x^5 \sqrt[3]{(1+x^3)^2}$.

13. $\frac{d}{dv}u = \frac{v^4 + 2v^3 + 5v^2 - 2}{(v^2 - v + 1)^2}$.

14. $f'(x) = -\frac{95(2x+5)^4}{(3x-2)^6}$.

15. $\frac{d}{dt}y = \frac{t^7(1+2t^2)}{(1-t^2)^5}$.

16. $v' = \frac{(s+2)(s+4)}{(s+3)^2}$.

17. $y' = -\frac{x}{\sqrt{4-x^2}}$.

$$18. \frac{d}{dx} y = -\frac{2x}{3\sqrt[3]{(3+x^2)^4}}.$$

$$19. F'(x) = \frac{3-x}{2\sqrt{(1-x)^3}}.$$

$$20. y' = -\frac{2a^2x}{\sqrt{(x^2+a^2)(x^2-a^2)^3}}.$$

$$21. \frac{d}{dx} y = -\frac{100(3x^2-2)}{(x^3-2x)^5}.$$

$$22. h'(x) = 3(x-3)^2.$$

$$23. G'(w) = 20w^4 - 60w^2 + 20w + 35.$$

$$24. \frac{d}{dr} \theta = \frac{5}{(2r+3)^2}.$$

$$25. \frac{d}{dx} y = -\frac{1}{x^2}; \quad \frac{d}{dy} x = -x^2.$$

$$26. \frac{d}{dx} y = \frac{1}{3}; \quad \frac{d}{dy} x = 3.$$

$$27. \frac{d}{dx} y = 15(5x+7)^2; \quad \frac{d}{dy} x = \frac{1}{15(5x+7)^2}.$$

$$28. a) \frac{d}{dx} y = 3(x^2+2x)^2(2x+2).$$

$$b) \frac{d}{dx} y = \frac{2\sqrt{x}+5}{2\sqrt{x}} = 1 + \frac{5}{2\sqrt{x}}.$$

$$c) \frac{d}{dx} y = \frac{1}{\sqrt{x}(\sqrt{x}+1)^2}.$$