

Obtén la derivada de las siguientes funciones:

1. $f(x) = (\sqrt{x} + 2)(2 - \sqrt{x})$

$f'(x) = -1$

2. $f(x) = \frac{\sqrt{x} + 2}{2 - \sqrt{x}}$

$f'(x) = \frac{2}{\sqrt{x}(2 - \sqrt{x})^2}$

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

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

4. $f(x) = 2\sqrt{x^3} + 4\sqrt{x} - 5$

$f'(x) = 3\sqrt{x} + \frac{2}{\sqrt{x}}$

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

$f'(x) = \frac{3}{(2 - x)^2}$

6. $f(x) = \frac{7}{x^2 + 5x}$

$f'(x) = -\frac{14x + 35}{(x^2 + 5x)^2}$

7. $f(x) = x^6$

$f'(x) = 6x^5$

8. $f(x) = 3x^2 + 2$

$f'(x) = 6x$

9. $f(x) = 5x^3 - 7x + 3$

$f'(x) = 15x^2 - 7$

10. $f(x) = \frac{1}{4}x^4 - \frac{3}{2}x^3 + 5x$

$f'(x) = x^3 - \frac{9}{2}x^2 + 5$

11. $f(x) = \frac{3}{x^6}$

$f'(x) = -\frac{18}{x^7}$

12. $f(x) = \sqrt[5]{x^3}$

$f'(x) = \frac{3}{5\sqrt[5]{x^2}}$

13. $f(x) = (x^2 + x)^4$

$f'(x) = 4(x^2 + x)^3(2x + 1)$

14. $f(x) = \sqrt{3x^4 - 2}$

$f'(x) = \frac{6x^3}{\sqrt{3x^4 - 2}}$

15. $f(x) = 2\sqrt[3]{4x^3 + 3x}$

$f'(x) = \frac{2(4x^2 + 1)}{\sqrt{(4x^3 + 3x)^2}}$

16. $f(x) = 4x^3(x^2 - 3)^2$

$f'(x) = 28x^6 - 120x^4 + 108x^2$

17. $f(x) = (2x - 1)\sqrt{x^2 + 4}$

$f'(x) = 2\sqrt{x^2 + 4} + \frac{(2x - 1)x}{\sqrt{x^2 + 4}}$

18. $f(x) = (3x - 5)^3(4x^3 + 3)^4$

$f'(x) = 9(3x - 5)^2(4x^3 + 3)^4 + 48x^2(3x - 5)^3$

19. $f(x) = \frac{2x}{2x - 5}$

$f'(x) = \frac{10}{(2x - 5)^2}$

20. $f(x) = \frac{4 + 7x^2}{4 - 7x^2}$

$f'(x) = \frac{56x}{(4 - 7x^2)^2}$

21. $f(x) = \frac{3x}{\sqrt{4x^2 + 5}}$

$f'(x) = \frac{15}{(4x^2 + 5)\sqrt{4x^2 + 5}}$