

Nombre y apellidos:

Curso:

Fecha:

Derivadas

1. $f(x) = \frac{x^3}{3} + 7x^2 - 4x - 7$	$f'(x) = x^2 + 14x - 4$
2. $f(x) = (x^3 - 3x^2 + 2x)^5$	$f'(x) = 5 \cdot (x^3 - 3x^2 + 2x)^4 \cdot (3x^2 - 6x + 2)$
3. $f(x) = \sqrt{x^2 - 2x + 3}$	$f'(x) = \frac{2x - 2}{2\sqrt{x^2 - 2x + 3}}$ $= \frac{x - 1}{\sqrt{x^2 - 2x + 3}}$
4. $f(x) = \frac{x^2 - 3x + 1}{x^2 + x - 2}$	$f'(x) = \frac{4x^2 - 6x + 5}{(x^2 + x - 2)^2}$
5. $f(x) = \ln(3x^2 - 1)$	$f'(x) = \frac{6x}{3x^2 - 1}$
6. $f(x) = \ln\sqrt{x - x^2}$	$f'(x) = \frac{1 - 2x}{2x(1 - x)}$
7. $f(x) = e^{3x^2 + 1}$	$f'(x) = 6xe^{3x^2 + 1}$
8. $f(x) = 10^{\sqrt{x}}$	$f'(x) = \frac{1}{2\sqrt{x}} \cdot 10^{\sqrt{x}} \cdot \ln 10$
9. $f(x) = 3^{2x^2} \cdot \sqrt{x}$	$f'(x) = 4x \cdot 3^{2x^2} \cdot \ln 3 \cdot \sqrt{x}$ $+ \frac{3^{2x^2}}{2\sqrt{x}}$

10. $f(x) = \frac{e^{2x}}{x^2}$	$f'(x) = \frac{2 \cdot e^{2x} \cdot (x-1)}{x^3}$
11. $f(x) = \operatorname{sen}\left(\frac{1}{2}x\right)$	$f'(x) = \frac{1}{2} \cdot \cos\left(\frac{1}{2}x\right)$
12. $f(x) = \cos(7-2x)$	$f'(x) = 2\operatorname{sen}(7-2x)$
13. $f(x) = 3\operatorname{tg}(2x)$	$f'(x) = 6(1+\operatorname{tg}^2(2x))$
14. $f(x) = \operatorname{sen}\left(\frac{x+1}{2x-3}\right)$	$f'(x) = \frac{-5}{(2x-3)^2} \cdot \cos\left(\frac{x+1}{2x-3}\right)$
15. $f(x) = \cos\left(\frac{3x}{x^2+2}\right)$	$f'(x) = \frac{3x^2-6}{(x^2+2)^2} \cdot \operatorname{sen}\left(\frac{3x}{x^2+2}\right)$
16. $f(x) = e^x \cdot \operatorname{sen}x$	$f'(x) = e^x \cdot (\operatorname{sen}x + \cos x)$
17. $f(x) = x^4 \cdot \cos x$	$f'(x) = 4x^3 \cos x - x^4 \operatorname{sen}x$
18. $f(x) = \ln(\operatorname{tg}(1-x))$	$f'(x) = -\frac{1+\operatorname{tg}^2(1-x)}{\operatorname{tg}(1-x)}$
19. $f(x) = e^{\frac{x^2+1}{x-1}}$	$f'(x) = e^{\frac{x^2+1}{x-1}} \cdot \frac{x^1-2x-1}{(x-1)^2}$