Funciones a derivar	Soluciones
1) $y = x^2+3x-2$	$y' = 2x+3$
2) $y = -ax^2+b$	$y' = -2ax$
3) $y = \frac{-x+3}{2}$	$y' = -\frac{1}{2}$
4) $y = \frac{6x^8-3}{5}$	$y' = \frac{48x^7}{5}$
5) $y = mx+n$	$y' = m$
6) $y=(4+3x)x$	$y' =4+6x$
7) $y=(3+2x)(3-2x)$	$y' =-8x$
8) $y=(ax^2+bx+c)(ax-b)$	$y' =3a^2x^2-b^2+ac$
9) $y=(-2x^2+x-1)\left(\frac{x-2}{2}\right)$	$y' =-3x^2+5x-\frac{3}{2}$
10) $y = (3x-4)^4$	$y' = 12(3x-4)^3$
11) $y = (2x^5-3)^6$	$y' = 60x^4(2x^5-3)^5$
12) $y=(2x-3)^3(3x+1)^2$	$y'=6(2x-3)^2(3x+1)(5x-2)$
13) $y = \frac{a}{x^n}$	$y' = -\frac{na}{x^{n+1}}$
14) $y = \frac{1}{x^4}+\frac{1}{x^3}+\frac{1}{x^2}$	$y' = -\frac{4}{x^5}-\frac{3}{x^4}-\frac{2}{x^3}$
15) $y = -\frac{2}{3}x^{-3}$	$y' =2x^{-4}$
16) $y = \frac{a}{x^2}-\frac{b}{x}+c$	$y' = -\frac{2a}{x^3}+\frac{b}{x^2}$
17) $y = \frac{2x}{3x+2}$	$y' = \frac{4}{(3x+2)^2}$
18) $y = \frac{3x-4}{x+1}$	$y' = \frac{7}{(x+1)^2}$
19) $y = \frac{3-4x}{5+2x}$	$y' = -\frac{26}{(2x+5)^2}$
20) $y = \frac{ax+b}{cx+d}$	$y' = \frac{ad-bc}{(cx+d)^2}$
21) $y = \frac{x^2+1}{x+1}$	$y' = \frac{x^2+2x-1}{(x+1)^2}$
22) $y = \frac{x+2}{x^2+x+1}$	$y' = \frac{-x^2-4x-1}{(x^2+x+1)^2}$
23) $y = \frac{1-x^2}{2+x^2}$	$y' = \frac{-6x}{(x^2+2)^2}$
24) $y = \frac{x}{x^2-1}$	$y' = -\frac{x^2+1}{(x^2-1)^2}$
25) $y = \frac{1}{a+x}+\frac{1}{a-x}$	$y' = \frac{1}{(x-a)^2}-\frac{1}{(x+a)^2}$

Funciones a derivar	Soluciones
26) $y = \frac{x^3-1}{x^3+1}$	$y' = \frac{6x^2}{(x^3+1)^2}$
27) $y = (2x+3)^2$	$y' = 8x+12$
28) $y=(4-5x)^3$	$y' = -15(4-5x)^2$
29) $y = \sqrt{2-x}$	$y' = -\frac{1}{2\sqrt{2-x}}$
30) $y = 3\sqrt{x^2-3}$	$y' = \frac{3x}{\sqrt{x^2-3}}$
31) $y = 2x\sqrt{5x}$	$y' = 3\sqrt{5x}$
32) $y = \frac{2}{\sqrt{1+x}}$	$y' = -\frac{1}{\sqrt{(x+1)^3}}$
33) $y = \sqrt[3]{4a+7x}$	$y' = \frac{7}{3\sqrt[3]{(4a+7x)^2}}$
34) $y = \left(x-\sqrt{1-x^2}\right)^2$	$y' = \frac{4x^2-2}{\sqrt{1-x^2}}$
35) $y = x\sqrt{a+x}$	$y' = \frac{2a+3x}{2\sqrt{a+x}}$
36) $y = \left(x+\sqrt{x}\right)^2$	$y' = 2x+1+3\sqrt{x}$
37) $y = 2\sqrt[5]{x^4-1}$	$y' = \frac{8x^3}{5\sqrt[5]{(x^4-1)^4}}$
38) $y = \ln\sqrt{\frac{x}{a}}$	$y' = \frac{1}{2x}$
39) $y = (1-x)\ln(1-x)$	$y' = -1-\ln(1-x)$
40) $y = \ln\frac{x+a}{x-a}$	$y' = \frac{1}{x+a}-\frac{1}{x-a}$
41) $y = \ln\left(1+\frac{a}{x}\right)$	$y' = \frac{1}{x+a}-\frac{1}{x}$
42) $y = \ln\sqrt[3]{x^2}$	$y' = \frac{2}{3x}$
43) $y = \ln\left(x\sqrt{x+1}\right)$	$y' = \frac{1}{2x+2}+\frac{1}{x}$
44) $y = \ln\sqrt[4]{1-2x^2}$	$y' = \frac{x}{2x^2-1}$
45) $y = \ln(2x+3)^{1/2}$	$y' = \frac{1}{2x+3}$
46) $y = \ln\frac{(x-5)^3}{(x+1)^2}$	$y' = \frac{3}{x-5}-\frac{2}{x+1}$
47) $y = \ln\sqrt[4]{\frac{(2x^2-3)^3}{x^2-5}}$	$y' = \frac{3x}{2x^2-3}-\frac{x}{2(x^2-5)}$

Funciones a derivar	Soluciones
48) $y = x^3e^x + x^2e^x$	$y' = e^x(x^3 + 4x^2 + 2x)$
49) $y = e^x + e^{-x}$	$y' = e^x - e^{-x}$
50) $y = e^{2\operatorname{sen} x}$	$y' = 2e^{2\operatorname{sen} x}\cos x$
51) $y = e^{3\operatorname{sen} 4x}$	$y' = 12\, e^{3\operatorname{sen} 4x}\cos 4x$
52) $y = a^{\sqrt{x}}$	$y' = \dfrac{a^{\sqrt{x}}}{2\sqrt{x}}\ln a$
53) $y = \dfrac{2^x + 3^{-x}}{2}$	$y' = \dfrac{2^x \ln 2 - 3^{-x}\ln 3}{2}$
54) $y = x^3e^{-3x}$	$y' = 3x^2e^{-3x}(1-x)$
55) $y = a^{nx}$	$y' = na^{nx}\ln a$
56) $y = 10^{\sqrt{x}}$	$y' = \dfrac{10^{\sqrt{x}}\ln 10}{2\sqrt{x}}$
57) $y = \ln\dfrac{e^x - 1}{e^x + 1}$	$y' = \dfrac{2e^x}{e^{2x} - 1}$
58) $y = \log_a(3x^2 + 5)$	$y' = \dfrac{6x}{3x^2 + 5}\cdot\dfrac{1}{\ln a}$
59) $y = \log\sqrt{\dfrac{1+x}{1-x}}$	$y' = \dfrac{1}{1-x^2}\cdot\dfrac{1}{\ln 10}$
60) $y = \ln\sqrt[3]{\dfrac{3x}{x+2}}$	$y' = \dfrac{2}{3x(x+2)}$
61) $y = \dfrac{\ln x}{\sqrt{x}}$	$y' = \dfrac{2 - \ln x}{2x\sqrt{x}} = \dfrac{\sqrt{x}(2 - \ln x)}{2x^2}$
62) $y = \ln\dfrac{x}{\sqrt{x^2 + a^2}}$	$y' = \dfrac{a^2}{x(x^2 + a^2)}$
63) $y = \ln\dfrac{(x-2)^3}{\sqrt{2x-1}}$	$y' = \dfrac{5x-1}{(x-2)(2x-1)}$
64) $y = \ln(x + \sqrt{x^2 - 1})$	$y' = \dfrac{1}{\sqrt{x^2 - 1}}$
65) $y = (3x+1)^{2x-3}$	$y' = (3x+1)^{2x-3}\cdot \cdot\left[2\ln(3x+1) + \dfrac{3(2x-3)}{3x+1}\right]$
66) $y = x^{1/x}$	$y' = x^{1/x}\left(\dfrac{1 - \ln x}{x^2}\right)$
67) $y = \sqrt[x]{(x+1)^2}$	$y' = \sqrt[x]{(x+1)^2}\cdot \cdot\dfrac{2x - 2(x+1)\ln(x+1)}{x^2(x+1)}$
68) $y = 2x^{3x}$	$y' = 6x^{3x}(1 + \ln x)$
69) $y = 2x^{\cos x}$	$y' = 2x^{\cos x - 1}(\cos x - x\operatorname{sen} x\ln x)$
70) $y = x^a a^x e^x$	$y' = x^a a^x e^x\left(\dfrac{a}{x} + \ln a + 1\right)$

Funciones a derivar	Soluciones
71) $y = \sqrt{x + \sqrt{x^2 - 1}}$	$y' = \dfrac{\sqrt{x + \sqrt{x^2 - 1}}}{2\sqrt{x^2 - 1}}$
72) $y = \dfrac{x+1}{x-1} + \dfrac{x}{\sqrt{x^2 - 1}}$	$y' = \dfrac{-2}{(x-1)^2} - \dfrac{1}{\sqrt{(x^2-1)^3}}$
73) $y = (2x+1)^3\sqrt{x^2 - 1}$	$y' = 6(2x+1)^2\sqrt{x^2 - 1} + \dfrac{(2x+1)^3 x}{\sqrt{x^2 - 1}} = \dfrac{(2x+1)^2(8x^2 + x - 6)}{\sqrt{x^2 + 1}}$
74) $y = \operatorname{sen} 2x$	$y' = 2\cos 2x$
75) $y = x\cos 2x$	$y' = \cos 2x - 2x\operatorname{sen} 2x$
76) $y = \operatorname{tg}\sqrt{x}$	$y' = \dfrac{1}{2\sqrt{x}\cos^2\sqrt{x}} = \dfrac{1}{2\sqrt{x}}\left(1 + \operatorname{tg}^2\sqrt{x}\right)$
77) $y = \operatorname{sen}^3 3x$	$y' = 9\operatorname{sen}^2 3x\cos 3x$
78) $y = 4\cos^5(2x-1)$	$y' = -40\cos^4(2x-1)\cdot \cdot sen(2x-1)$
79) $y = \operatorname{cotg} 4x^2$	$y' = -\dfrac{8x}{\operatorname{sen}^2 4x^2} = -8x(1 + \operatorname{cotg}^2 4x^2)$
80) $y = \dfrac{\operatorname{sen} x}{1 + \cos x}$	$y' = \dfrac{1}{1 + \cos x}$
81) $y = \dfrac{\cos x}{1 - \operatorname{sen} x}$	$y' = \dfrac{1}{1 - \operatorname{sen} x}$
82) $y = \operatorname{sen}^4 x - \cos^4 x$	$y' = 4\operatorname{sen}^3 x\cos x + 4\cos^3 x\operatorname{sen} x = 4\operatorname{sen} x\cos x = 2\operatorname{sen} 2x$
83) $y = \operatorname{arcsen} 2x$	$y' = \dfrac{2}{\sqrt{1 - 4x^2}}$
84) $y = \operatorname{arccos}\sqrt{x}$	$y' = \dfrac{-1}{2\sqrt{x - x^2}}$
85) $y = \operatorname{arctg}(x^2+1)$	$y' = \dfrac{2x}{x^4 + 2x^2 + 2}$
86) $y = \operatorname{arctg}(e^{-2x})$	$y' = \dfrac{-2e^{-2x}}{1 + e^{-4x}}$
87) $y = \operatorname{arctg}(\ln x)$	$y' = \dfrac{1}{x(1 + \ln^2 x)}$
88) $y = \dfrac{\operatorname{sen}^2 x - \cos x}{\operatorname{tg} x}$	$y' = \dfrac{2\operatorname{sen}^2 x\cos^2 x + \operatorname{sen}^2 x\cos x - \operatorname{sen}^2 x + \cos x}{\operatorname{sen}^2 x}$
89) $y = \cos^2 3x^2$	$y' = -6x\operatorname{sen} 6x^2$