Tabla de las principales derivadas

$f(x) = c$	$\Rightarrow$	$f'(x) = 0$
$f(x) = x^a$	$\Rightarrow$	$f'(x) = ax^{a-1}$
$f(x) = a^x$ con $a > 0$	$\Rightarrow$	$f'(x) = a^x \ln a$
$f(x) = e^x$	$\Rightarrow$	$f'(x) = e^x$
$f(x) = \log_a x$ con $a > 0$	$\Rightarrow$	$f'(x) = \dfrac{1}{x}\log_a e = \dfrac{1}{x \ln a}$
$f(x) = \ln x$	$\Rightarrow$	$f'(x) = \dfrac{1}{x}$
$f(x) = \text{sen}x$	$\Rightarrow$	$f'(x) = \cos x$
$f(x) = \cos x$	$\Rightarrow$	$f'(x) = -\text{sen}x$
$f(x) = \text{tg}x$	$\Rightarrow$	$f'(x) = \dfrac{1}{\cos^2 x} = 1 + \text{tg}^2 x$
$f(x) = \text{arcsen}x$	$\Rightarrow$	$f'(x) = \dfrac{1}{\sqrt{1-x^2}}$
$f(x) = \arccos x$	$\Rightarrow$	$f'(x) = \dfrac{-1}{\sqrt{1-x^2}}$
$f(x) = \text{arctg}x$	$\Rightarrow$	$f'(x) = \dfrac{1}{1+x^2}$

Aplicar las respectivas derivadas de producto o división

Diferencie las funciones de los problemas 1 a 48.

*1. $f(x) = (4x + 1)(6x + 3)$

2. $f(x) = (3x - 1)(7x + 2)$

3. $s(t) = (5 - 3t)(t^3 - 2t^2)$

4. $Q(x) = (3 + x)(5x^2 - 2)$

5. $f(r) = (3r^2 - 4)(r^2 - 5r + 1)$

6. $C(I) = (2I^2 - 3)(3I^2 - 4I + 1)$

7. $f(x) = x^2(2x^2 - 5)$

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

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

10. $\phi(x) = (3 - 5x + 2x^2)(2 + x - 4x^2)$

11. $f(w) = (w^2 + 3w - 7)(2w^3 - 4)$

12. $f(x) = (3x - x^2)(3 - x - x^2)$

13. $y = (x^2 - 1)(3x^3 - 6x + 5) - 4(4x^2 + 2x + 1)$

14. $h(x) = 4(x^5 - 3) + 3(8x^2 - 5)(2x + 2)$

*15. $F(p) = \frac{3}{2}(5\sqrt{p} - 2)(3p - 1)$

16. $g(x) = (\sqrt{x} + 5x - 2)(\sqrt[3]{x} - 3\sqrt{x})$

*17. $y = 7 \cdot \frac{2}{3}$

18. $y = (x - 1)(x - 2)(x - 3)$

*19. $y = (2x - 1)(3x + 4)(x + 7)$

20. $y = \dfrac{2x - 3}{4x + 1}$

*21. $f(x) = \dfrac{5x}{x - 1}$

22. $H(x) = \dfrac{-5x}{5 - x}$

23. $f(x) = \dfrac{-13}{3x^5}$

24. $f(x) = \dfrac{5(x^2 - 2)}{7}$

25. $y = \dfrac{x + 2}{x - 1}$

26. $h(w) = \dfrac{3w^2 + 5w - 1}{w - 3}$

27. $h(z) = \dfrac{6 - 2z}{z^2 - 4}$

28. $z = \dfrac{2x^2 + 5x - 2}{3x^2 + 5x + 3}$

29. $y = \dfrac{8x^2 - 2x + 1}{x^2 - 5x}$

30. $f(x) = \dfrac{x^3 - x^2 + 1}{x^2 + 1}$

31. $y = \dfrac{x^2 - 4x + 3}{2x^2 - 3x + 2}$

32. $F(z) = \dfrac{z^4 + 4}{3z}$

33. $g(x) = \dfrac{1}{x^{100} + 7}$

34. $y = \dfrac{-9}{2x^5}$

35. $u(v) = \dfrac{v^3 - 8}{v}$

36. $y = \dfrac{x - 5}{8\sqrt{x}}$

37. $y = \dfrac{3x^2 - x - 1}{\sqrt[3]{x}}$

38. $y = \dfrac{x^{0.3} - 2}{2x^{2.1} + 1}$

39. $y = 7 - \dfrac{4}{x - 8} + \dfrac{2x}{3x + 1}$

40. $q(x) = 2x^3 + \dfrac{5x + 1}{3x - 5} - \dfrac{2}{x^3}$

41. $y = \dfrac{x - 5}{(x + 2)(x - 4)}$

42. $y = \dfrac{(9x - 1)(3x + 2)}{4 - 5x}$

43. $s(t) = \dfrac{t^2 + 3t}{(t^2 - 1)(t^3 + 7)}$

44. $f(s) = \dfrac{17}{s(5s^2 - 10s + 4)}$

*45. $y = 3x - \dfrac{\frac{2}{x} - \frac{3}{x - 1}}{x - 2}$

46. $y = 3 - 12x^3 + \dfrac{1 - \frac{5}{x^2 + 2}}{x^2 + 5}$