

Déterminez une primitive de f sur I dans chacun des cas suivants :

1. $f(x) = 12x^5 - 4x^3 + 1$; $I = \square$

2. $f(x) = 3 - \frac{4}{x^2}$; $I =]0 ; +\infty[$

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

4. $f(x) = \frac{2x}{\sqrt{x^2-1}}$; $I =]1 ; +\infty[$

5. $f(x) = \frac{6x+3}{\sqrt{x^2+x+1}}$; $I = \square$

6. $f(x) = -\cos x + 2\sin x$; $I = \square$

7. $f(x) = \cos x \sin^3 x$; $I = \square$

8. $f(x) = \frac{1}{\cos^2 x} + \cos x$; $I = \left] -\frac{\pi}{2} ; +\frac{\pi}{2} \right[$

9. $f(x) = (2x+1)^2$; $I = \square$

10. $f(x) = \frac{x^4 - 4x^2 - 2}{x^2}$; $I =]0 ; +\infty[$

11. $f(x) = (3x-1)^2$; $I = \square$

12. $f(x) = \frac{2x^4 - 3x^2 + 1}{x^2}$; $I =]0 ; +\infty[$

13. $f(x) = \frac{3x^2}{\sqrt{x^3-1}}$; $I =]1 ; +\infty[$

14. $f(x) = \frac{-5x}{(x^2+1)^3}$; $I = \square$

15. $f(x) = \cos x \sin^4 x$; $I = \square$

16. $f(x) = -\sin x + 2\cos x$; $I = \square$

17. $f(x) = \frac{x+0,5}{\sqrt{x^2+x+1}}$; $I = \square$

18. $f(x) = -1 + \frac{3}{x^2}$; $I =]0 ; +\infty[$

19. $f(x) = 7x^3 - 2x^2 + 3$; $I = \square$

20. $f(x) = \frac{2}{\cos^2 x} + \sin x$; $I = \left] -\frac{\pi}{2} ; +\frac{\pi}{2} \right[$

21. $f(x) = 3 + \cos x$, $I = \square$

22. $f(x) = \sin 3x$, $I = \square$

23. $f(x) = \frac{\sin x}{\cos^2 x}$, $I = \left] -\frac{\pi}{2} ; +\frac{\pi}{2} \right[$

24. $f(x) = \frac{x}{\sqrt{x^2-3}}$, $I =]3 ; +\infty[$

25. $f(x) = x^2(x^3+2)^3$, $I = \square$

26. $f(x) = 2\cos\left(3x - \frac{\pi}{6}\right) - 4\sin\left(\frac{x+\pi}{3}\right) + \frac{5}{3}\cos\frac{2\pi}{3}$

27. $f(x) = \frac{5}{7\sqrt{3x-1}} - 4$, $I = \left] \frac{1}{3} ; +\infty \right[$

28. $f(x) = \frac{3}{(2x-4)^3} + \frac{1}{4(5-x)^7}$, $I =]2 ; 5[$

29. $f(x) = \frac{x^2+x}{(2x^3+3x^2)^4}$, $I =]0 ; +\infty[$

30. $f(x) = \frac{5x^4+2x^3-4x+1}{x^3}$, $I =]0 ; +\infty[$