

ANSWERS

1. $\frac{1}{6}(3+2x^2) \cdot \sqrt{3+2x^2} + C$
2. $\sqrt{x^4-1} + C$
3. $\frac{8}{45}(3x^3+5) \cdot \sqrt[4]{3x^3+5} + C$
4. $\frac{3}{5} \sqrt[3]{(x^2+5)^2} + C$
5. $\frac{\cos^8 x}{8} - \frac{\cos^6 x}{6} + C$
6. $-\frac{1}{\sin x} - \sin x + C$
7. $\frac{\cos^3 x}{3} - \cos x + C$
8. $\frac{1}{4}x^4 + \frac{2}{3}x^3 - \frac{1}{2}x^2 - 3x - 5 \ln|x-2| + C$
9. $\ln|x^2-2x-10| + C$
10. $\ln|3x^3-2x+4| + C$
11. $\frac{4}{3}x^3 + x^2 + 10x - 10 \ln|x-3| + C$
12. $\frac{3}{2} \ln|x+5| + \frac{1}{2} \ln|x-1| + C$

INTEGRATE SUBSTITUTION

1. $\int x \cdot \sqrt{3+2x^2} dx$
2. $\int \frac{4x^3}{2 \cdot \sqrt{x^4-1}} dx$
3. $\int 2x^2 \cdot \sqrt[4]{3x^3+5} dx$
4. $\int \frac{4x}{5 \cdot \sqrt[3]{x^2+5}} dx$
5. $\int \sin^3 x \cos^5 x dx$
6. $\int \frac{\cos^3 x}{\sin^2 x} dx$
7. $\int \sin^3 x dx$
8. $\int \frac{x^4-5x^2-x+1}{x-2} dx$
9. $\int \frac{2x-2}{x^2-2x-10} dx$
10. $\int \frac{9x^2-2}{3x^3-2x+7} dx$
11. $\int \frac{4x^3-10x^2+4x-40}{x+3} dx$
12. $\int \frac{2x+1}{x^2+4x-5} dx$