

Integration

1. $\int \cos^3 x dx$

2. $\int \frac{1}{x^2 + 36} dx$

3. $\int \frac{1}{x^2 + 6x + 9} dx$

4. $\int x\sqrt{1-x^2} dx$

5. $\int_{\frac{\pi}{6}}^{\frac{\pi}{3}} \left(\frac{\tan x}{\cos^2 x} \right) dx$

6. $\int_0^{\frac{\sqrt{3}}{3}} \frac{1}{\sqrt{4-9x^2}} dx$

7. $\int_1^2 \left(5^x + \frac{1}{x} \right) dx$

8. $\int_1^e \frac{(\ln x)^2}{x} dx$

9. $\int \frac{x}{1-x} dx$

10. $\int_0^{\frac{\pi}{4}} \tan x \cdot \sec^2 x dx$