

Categorize each integral below according to the basic integration formula involved:

A) $\int u^n du$

B) $\int \sin u du$

C) $\int \cos u du$

D) $\int (f(x) + g(x)) dx$

___ 1. $\int x^{10} dx$

___ 7. $\int (\cos x - 3)^2 \sin x dx$

___ 2. $\int \sin^2 w \cos w dw$

___ 8. $\int \frac{\cos(x^{-1}) dx}{x^2}$

___ 3. $\int \frac{\sin \sqrt{x}}{\sqrt{x}} dx$

___ 9. $\int x \sin(x^2 + 3) dx$

___ 4. $\int \cos(5y + 3) dy$

___ 10. $\int \frac{y dy}{8\sqrt{(4 + y^2)^3}}$

___ 5. $\int (\cos^2 x - 3)^2 \sin x \cos x dx$

___ 11. $\int \frac{(r + 1) dr}{\sqrt[3]{r^2 + 2r - 2}}$

___ 6. $\int (\cos x - 3)^2 dx$

___ 12. $\int \frac{\cos(\frac{x}{2}) dx}{\sin^2(\frac{x}{2})}$