

3. Evaluate  $\int \frac{2x+3}{(x^2+3x-1)^5} dx$ .

$$u = x^2 + 3x - 1$$

$$du = (2x + 3) dx$$

$$\int \frac{2x+3}{(x^2+3x-1)^5} dx = \int \frac{1}{u^5} du = \int u^{-5} du$$

$$= \frac{1}{-4} u^{-4} + C$$

$$= -\frac{1}{4} (x^2+3x-1)^{-4} + C$$

$$\underline{-\frac{1}{4(x^2+3x-1)^4} + C}$$

4. Evaluate  $\int -4 \cos^3(x) \sin(x) dx$ .

$$u = \cos x$$

$$du = -\sin x dx$$

$$\int -4 \cos^3(x) \sin(x) dx$$

$$= \int 4u^3 du$$

$$= u^4 + C$$

$$= \cos^4(x) + C$$

$$\underline{\cos^4(x) + C}$$