

Evaluate the following integrals by using the table of integrals. You may need to transform the integrand first.

1. $\int \cos^3 x \sin^2 x \, dx$

5. $\int \frac{x^3+3x-2}{x^2+3} \, dx$

2. $\int \cos^4 \theta \sin^2 \theta \, d\theta$

6. $\int e^y \cos(3y + 5) \, dy$

3. $\int \frac{1}{x^2+8x+23} \, dx$

7. $\int \frac{1}{\sqrt{2-3t^2}} \, dt$

4. $\int \frac{1}{\sqrt{x^2+4x+7}} \, dx$

8. $\int \frac{2}{u^2-4u+3} \, du$