

1. $\int x \ln(1 + x^2) dx$

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

3. $\int \cos x \tan^{-1}(\sin x) dx$

4. $\int_0^{\pi/3} \sin x \ln(\cos x) dx$

5. $\int e^{\sqrt{x}} dx$

6. $\int x \tan^{-1} x dx$

7. $\int \frac{x^2}{(1 + x^2)^2} dx$

8. $\int x e^x \cos x dx$

9. $\int \cos(\ln x) dx$

10. $\int (\ln x)^2 dx$

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

12. $\int \frac{x^3 e^{x^2}}{(x^2 + 1)^2} dx$