

Success in this ODE class will depend heavily on your ability to integrate, so here are a few review problems to get you back into “math mode” after the summer break and help you practice your integration skills.

1. $\int x e^{2x} dx$

2. $\int x \sin(x) dx$

3. $\int x \ln(x) dx$

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

5. $\int \arctan(x) dx$

6. $\int e^x \sin(x) dx$

7. $\int \frac{(\ln x)^2}{x^3} dx$

8. $\int \frac{1}{x-2} dx$

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

10. $\int \frac{s+2}{s-3} ds$

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

12. $\int \frac{3 + x^2}{x} dx$

13. $\int \frac{1}{x(3 + \ln x)} dx$

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