

The Infinite Actuary Exam 1/P Online Seminar
Practice Problems on Integration by Parts

1. $\int_0^{\infty} x e^{-x^2} dx$

2. $\int_0^{\infty} y e^{-y} dy$

3. $\int_0^{\infty} 3t e^{-t/2} dt$

4. $\int_0^{\infty} x^2 e^{-x} dx$

5. $\int_1^{\infty} 3x e^{-2x^2} dx$

6. $\int_2^{\infty} 3y e^{-2y} dy$

7. $\int_3^{\infty} 3z^2 e^{-4z} dz$

8. $\int_0^{\infty} 2r e^{-r^2/3} dr$

9. $\int_0^{\infty} (s+3) e^{-s/2} ds$

10. $\int_0^{\infty} (t^2+t) e^{-t/3} dt$

11. $\int_0^3 y e^y dy$

12. $\int_0^{10} (x+1) e^{-2x} dx$

13. $\int_0^{\pi/2} x \cos x dx$

14. $\int_0^{\pi} t^2 \cos(t/2) dt$

15. $\int_1^5 3 \ln(2x) dx$