

**The Infinite Actuary Exam 1/P Online Seminar**  
**Practice Problems on One Dimensional Integrals**

1.  $\int \frac{1}{(5+t)^3} dt$

2.  $\int \frac{1}{(4+3t)^4} dt$

3.  $\int \frac{t^2}{(1+t^3)^4} dt$

4.  $\int \frac{t^2}{(9+t)^5} dt$

5.  $\int_0^{10} \frac{1}{1+t} dt$

6.  $\int_{-2}^3 |x+1| dx$

7.  $\int_2^7 x^2(1+x) dx$

8.  $\int_3^5 x^2 dx$

9.  $\int 5(2x+1)^3 dx$

10.  $\int_5^\infty e^{-3x} dx$

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

12.  $\int_{-\infty}^\infty e^{-|x|} dx$

13.  $\int_0^2 t \cos(t^2) dt$

14.  $\int x(x^2+2)^3 dx$

15.  $\int x^2(x^3-x-1) dx$

16.  $\int_{30}^\infty 3 \cdot \frac{30^3}{x^4} dx$

17.  $\int_{30}^\infty 3 \cdot \frac{30^3}{x^3} dx$

18.  $\int_{30}^\infty 3 \cdot \frac{30^3}{x^2} dx$

19.  $\int_0^\infty 3 \cdot \frac{30^3}{(x+30)^4} dx$

20.  $\int_0^\infty 3 \cdot \frac{30^3 x}{(x+30)^4} dx$

21.  $\int_0^2 (x^2+2)(x^3+6x)^5 dx$

22.  $\int_0^4 \frac{x^2}{4} dx$

23.  $\int \frac{1}{(3+5z)^3} dz$

24.  $\int t^3 (5+t^4)^2 dt$

25.  $\int (2y+1)(y^2+y)^3 dy$

26.  $\int \frac{5}{3+2z} dz$

27.  $\int \frac{y^2}{1+y^3} dy$

28.  $\int 4e^{5t} dt$

29.  $\int_0^5 e^{4x+1} dx$

30.  $\int_{-5}^5 |2s+1| ds$