

Additional Problems for Calc B Gateway Exam Database

1. $\int (x - 3)^{20}(x + 1)^2 dx$
2. $\int x^3 e^{x^2} dx$
3. $\int \frac{dx}{x \ln^2(x)}$
4. $\int e^{e^x} e^x dx$
5. $\int \frac{\sqrt{\ln(x)}}{x} dx$
6. $\int \frac{dx}{(1 + x^2) \arctan(x)}$
7. $\int \cos^2(3x + 1) dx$
8. $\int x \cos\left(\frac{x}{2}\right) dx$
9. $\int t \ln t dt$
10. $\int x e^{-x} dx$
11. $\int \sqrt{x} \ln(x) dx$
12. $\int \frac{3x^2 - 8x + 1}{x^3 - 4x^2 + x + 6} dx$
13. $\int x^3 \ln(x) dx$
14. $\int \ln(\sqrt{x}) dx$
15. $\int \frac{x^2}{x^2 - 1} dx$
16. $\int \cos^2(x) dx$
17. $\int \frac{x^2}{x^2 - 1} dx$
18. $\int \frac{e^x}{2 + e^x} dx$
19. $\int \frac{x^2 + 1}{x^2 - x} dx$
20. $\int \frac{x^3 + x^2 + 1}{x^2} dx$
21. $\int \frac{\cos x}{\sin^3 x + \sin x} dx$

22.
$$\int \frac{x^4}{x^2 - 1} dx$$

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

24.
$$\int x(\ln x)^4 dx$$

25.
$$\int_0^{\frac{\pi}{2}} \frac{\cos(x) dx}{\sqrt{\sin(x)}}$$

26.
$$\int_e^{e^e} \frac{dx}{x \ln(x)}$$

27.
$$\int_0^1 \frac{\arcsin(\theta)}{\sqrt{1 - \theta^2}} d\theta$$

28.
$$\int \frac{x \cos(x^2)}{\sqrt{\sin(x^2)}}$$

29.
$$\int_0^1 \frac{x^3 dx}{\sqrt{x^4 + 9}}$$

30.
$$\int_0^1 r \sqrt{1 - r^2} dr$$

31.
$$\int_1^e (\ln w)^3 dw$$

Maybe More Complicated Integrals :)

32.
$$\int \frac{x dx}{1 + x^4}$$

33.
$$\int \cos(\sqrt{x}) dx$$

34.
$$\int e^{\sqrt{x}} dx$$

35.
$$\int x^5 \sqrt{1 + x^2} dx$$

36.
$$\int x^5 \sin(x^3) dx$$

37.
$$\int \frac{e^z dz}{e^{2z} + 3e^z + 2}$$

38.
$$\int \arctan(t) dt$$