"The world is looking for people who have done something not those who can explain why they did nothing". Don't give it a second thought do it now.

INTEGRATION REVISION QUESTIONS

1. Find $\int \ln(x^2-4)\,dx$
2. Find $\int \frac{dx}{3-2\cos x}$
3. Use substitution of $x=\frac{1}{u}$ to evaluate $\int_1^2 \frac{dx}{x\sqrt{x^2-1}}$
4. Show that $\frac{d}{dx}(a^x)=a^x lna$, hence find $\int 5^{2x}dx$
5. Find $\int \frac{x^3-3}{(x-2)(x^2+1)}dx$
6. Find $\int_2^3 \frac{x}{x^2+1}dx$
7. Evaluate $\int_0^{\frac{\pi}{2}} \sin 2x \cos x\,dx$
8. Find $\int tan^3 x dx$
9. Evaluate $\int_1^3 \frac{2x^2-x+14}{(4x^2-1)(x+3)}dx$
10. Evaluate $\int_0^1 \frac{x}{(2x+1)^3}dx$
11. Integrate $\frac{4x^2}{\sqrt{(1-x^6)}}$ with respect to x.
12. Evaluate $\int_1^3 \frac{x^2+1}{x^3+4x^2+3x}dx$
13. Find $\int tan^4 x dx$
14. Find $\int_0^1 \frac{\tan^{-1}x}{1+x^2}dx$
15. Find $\int_0^1 \frac{x}{\sqrt{1+x}}dx$
16. Find $\int \frac{x^2}{\sqrt{x^4-x^2}}dx$
17. Evaluate $\int_0^{\pi} x \sin x\,dx$
18. Find $\int \frac{6x}{(x-2)(x+4)^2}dx$
19. Evaluate $\int_0^{\frac{\pi}{2}} \frac{\cos x}{1+sin^2 x}dx$
20. Integrate $\frac{2x}{\sqrt{x^2+4}}$ with respect to x.
21. Evaluate $\int_0^{\frac{\pi}{6}} \sin x \sin 3x\,dx$
22. Using the substitution $x=3\sin\theta$, evaluate $\int_0^3 \sqrt{\left(\frac{3+x}{3-x}\right)}dx$.
23. Evaluate $\int_0^1 \frac{x^3}{x^2+1}dx$.
24. Evaluate $\int_0^{\frac{\pi}{2}} \frac{d\theta}{3-\cos\theta}$
25. Find $\int xlnx\,dx$
26. Find $\int x^3 e^{x^4}\,dx$
27. Use the substitution $t=\tan x$ to find $\int \frac{1}{1+sin^2 x}dx$
28. Evaluate $\int_6^7 \frac{x^2-4}{(x+1)^2(x-5)}dx$
29. Use the substitution $t=\tan\frac{x}{2}$ to evaluate $\int_0^{\frac{\pi}{2}} \frac{1}{3+5\cos x}dx$
30. Evaluate $\int_0^{\sqrt{\frac{\pi}{2}}} 2x\cos(x)^2\,dx$
31. Evaluate $\int_3^4 \frac{3x^2+x+1}{(x-2)(xdx+1)^3}dx$
32. Evaluate $\int_1^3 3^x dx$
33. Find $\int lnx^2\,dx$
34. Find $\int \frac{1}{e^x-1}dx$
35. Evaluate $\int_0^2 \frac{8x}{x^2-4x-12}dx$
36. Find $\int xe^{x^2}\,dx$
37. Find $\int \frac{x^3}{(1+x^2)^{\frac{1}{2}}}dx$
38. Evaluate $\int_0^{\frac{\pi}{2}} \frac{dx}{1+\sin x+\cos x}$
39. Evaluate $\int_0^{\frac{\pi}{2}} \sin 2\theta \cos\theta d\theta$
40. Evaluate $\int_0^{\frac{\pi}{2}} xsin^2 2x dx$.
41. Integrate $\frac{x^4-x^3+x^2+1}{x^3+x}$ with respect to x
42. Evaluate $\int_1^2 \frac{lnx}{x}dx$
43. Evaluate $\int_1^3 \left(\frac{3x^2+4x+1}{x^3+2x^2+x}\right)dx$
44. Find $\int \frac{\sin^{-1}2x}{\sqrt{(1-4x^2)}}dx$
45. Evaluate $\int_0^{\frac{\pi}{2}} x^2 \sin x\,dx$
46. Evaluate $\int_0^{\frac{\pi}{2}} \frac{dx}{1+\sin x}$.
47. Evaluate $\int_0^1 xe^{2x}dx$.
48. Find $\int \frac{x^3+5x^2-6x+6}{(x-1)^2(x^2+2)}dx$.
49. Find $\int x(1-x^2)^{1/2}\,dx$.
50. Find $\int e^{2x}\sin x\,dx$

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51. Evaluate $\int_2^3 \frac{dx}{x^2(x-1)}$.
52. Find $\int \sin^{-1} x\, dx$
53. Evaluate $\int_0^{\frac{\pi}{3}} (1+\cos 3y)^2 dy$
54. Evaluate $\int \frac{3x^3+2x^2-3x+1}{x(1-x)} dx$
55. Find $\int tan^2 \frac{x}{2} dx$
56. Evaluate $\int_0^{\frac{1}{2}} \frac{11x-1}{(1-x)^2(2+3x)} dx$
57. Find $\int x \cos x^2\, dx$
58. Find $\int \frac{\sin \sqrt{x}}{\sqrt{x}} dx$
59. Evaluate $\int_0^{\frac{\pi}{2}} x^2 \cos x\, dx$.
60. Evaluate $\int_0^{\frac{\pi}{4}} x tan^2 x\, dx$