Integration Techniques!

1. $\int x\cos(2x)\ dx$

2. $\int \dfrac{\sin^2(x)}{1+\cos(x)}\ dx$

3. $\int x\cos^2(x)\ dx$

4. $\int \cos^2(x)\ dx$

5. $\int \sin^3(x)\cos^2(x)\ dx$

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

7. $\int \dfrac{e^{2x}}{\sqrt{e^{2x}+1}}\ dx$

8. $\int \dfrac{e^x}{\sqrt{e^{2x}+1}}\ dx$

9. $\int \dfrac{\ln(x)}{x^2}\ dx$

10. $\int \dfrac{x}{\sqrt{x^2+9}}\ dx$

11. $\int \dfrac{x^2}{\sqrt{2x+3}}\ dx$

12. $\int \dfrac{1}{\sqrt{3-4t-4t^2}}\ dx$

13. $\int \dfrac{1}{x^2\sqrt{a^2-x^2}}\ dx$

14. $\int \sqrt{a^2-x^2}\ dx$

15. $\int \dfrac{1}{2x^2+3x+1}\ dx$

16. $\int \dfrac{x+1}{x^3+x^2-6x}\ dx$

17. $\int \dfrac{1+t}{\sqrt{t}}\ dx$

18. $\int \dfrac{\sqrt{t}}{1+t}\ dx$