KEY

Integral Practice Worksheet

1. $\int x\sqrt{x+1}\,dx$ $\frac{2}{3}x(x+1)^{3/2} - \frac{4}{15}(x+1)^{5/2} + C$ or $\frac{2}{5}(x+1)^{5/2} - \frac{2}{3}(x+1)^{3/2} + C$

2. $\int \sin(2\theta)e^{\cos(2\theta)}\,d\theta$ $-\frac{1}{2}e^{\cos(2\theta)} + C$

3. $\int (\arctan y)\,dy$ $y\tan^{-1}y - \frac{1}{2}\ln(1+y^2) + C$

4. $\int ze^{z+2}\,dz$ $ze^{z+2} - e^{z+2} + C$

5. $\int \frac{\sin(t^{0.6})}{t^{0.4}}\,dt$ $-\frac{5}{3}\cos(t^{.6}) + C$

6. $\int x\ln(x^2)\,dx$ $\frac{1}{2}\left(x^2\ln(x^2) - x^2\right) + C$

7. $\int \frac{x}{e^x}\,dx$ $-xe^{-x} - e^{-x} + C$

8. $\int \frac{(\ln x)^2}{x}\,dx$ $\frac{1}{3}(\ln x)^3 + C$

9. $\int x^7(\ln x)\,dx$ $\frac{1}{8}x^8\ln x - \frac{1}{64}x^8 + C$