Evaluate the integral.

1. $\int \dfrac{6x+1}{5x+2}\,dx$

2. $\int\limits_{1}^{\infty} x^{-\frac{3}{2}}\,dx$

3. $\int x^4 \ln x\,dx$

4. $\int \dfrac{1}{x^2-4x-12}\,dx$

5. $\int x\sin x\,dx$

6. $\int\limits_{0}^{2} \dfrac{1}{(x-1)^2}\,dx$

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

8. $\int \dfrac{x^2+2x}{x+2}\,dx$

9. $\int \dfrac{dx}{4+x^2}$

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

11. $\int \dfrac{\ln(\ln x)}{x} dx$

12. $\int \cos^3 x\, dx$

13. $\int \cos^2 x \sin^2 x\, dx$

14. $\int_{-\infty}^{0} e^{3x} dx$