e) $\dfrac{Ax+B}{x^2+x+1}+\dfrac{Cx+D}{x^2-x+1}$

f) $\displaystyle\sum_{i=1}^{4}\frac{A_i}{(x-1)^i}+\sum_{i=1}^{4}\frac{B_i}{(x+1)^i}+\sum_{i=1}^{3}\frac{C_i}{(x-\sqrt{2})^i}+\sum_{i=1}^{3}\frac{D_i}{(x+\sqrt{2})^i}$

g) $\dfrac{A}{x}+\dfrac{B}{x^2}+\dfrac{C}{x^3}+\dfrac{D}{x+1}+\dfrac{E}{(x+1)^2}+\dfrac{F}{x-2}$

4. $I_n=\dfrac{x^{n-1}}{n-1}-I_{n-2}$

6. $-\dfrac{2}{x}+\dfrac{1}{x^2}+\dfrac{1}{x^3}+\dfrac{2x-1}{x^2+1}+\dfrac{x-1}{(x^2+1)^2}+C$

8. a) $\dfrac{1}{3}\ln\dfrac{(x+1)^2(x-2)}{(x-1)(x+2)^2}+C$

   b) $\dfrac{1}{6}\ln\dfrac{x-1}{x+1}+\dfrac{\sqrt{2}}{3}\arctan\dfrac{x}{\sqrt{2}}+C$

   c) $\dfrac{3}{4}\ln\dfrac{x^2+1}{(x-1)^2}-\arctan x-\dfrac{3x-4}{2(x-1)^2}+C$

10. $-\dfrac{3x^3+2x^2+2x+1}{2x^2(x^2+1)}+\ln\dfrac{x^2+1}{x^2}-\dfrac{3}{2}\arctan x+C$

12. a) $\ln\dfrac{x}{x-1}-\dfrac{1}{6}\ln(x^2+1)-\dfrac{1}{3}\arctan x-\dfrac{x+1}{x^2+1}+C$

    b) $\dfrac{1}{\sqrt{11}}\arctan\dfrac{4x+1}{\sqrt{11}}+C$

14. a) $\ln(x-2)^2|x+2|^3+6$

    b) $\dfrac{5}{9}\ln|x-1|+\dfrac{4}{9}\ln|x+2|-\dfrac{1}{3(x-1)}+C$

    c) $\ln(x-1)^4+\dfrac{1}{3}\ln|x+1|+\dfrac{5}{3}(x-2)+C$

    d) $\ln|x|-\dfrac{3}{x+1}+C$

16. a) $\dfrac{1}{2}\ln|2x+1|-3\arctan x+C$

    b) $\dfrac{1}{12}\ln\left|\dfrac{2x-3}{2x+3}\right|+C$

18. a) $\ln\dfrac{9}{8}$

    b) $\dfrac{3}{28}+\ln 16$

20. $\ln\dfrac{9}{2}$