

Y	Q	Partial Fractions
2022	2	Express the function $f(x) = \frac{2-3x-x^2}{(1+x)(1-x)^2}$ as a sum of partial fractions. <span style="float: right;">3</span>
2018	2	<p>(a) Find partial fractions for <math>\frac{13+6x+5x^2}{(1+x)(2-x)(3+x)}</math>. <span style="float: right;">4</span></p> <p>(b) Show that <math>\int_0^1 \frac{13+6x+5x^2}{(1+x)(2-x)(3+x)} dx = \ln \frac{a}{b}</math> where <math>a</math> and <math>b</math> are positive integers. <span style="float: right;">3</span></p>
2017	5	Express $\frac{3x^2+4x+17}{(x-3)(x^2+5)}$ as a sum of partial fractions. <span style="float: right;">4</span>
2016	8	<p>(a) Show that <math>\frac{3x^3+8x^2-11}{(x+1)(x+3)(x-2)}</math> can be written as <math>3 + \frac{2x^2+15x+7}{x^3+2x^2-5x-6}</math>. <span style="float: right;">3</span></p> <p>(b) Hence express <math>\frac{3x^3+8x^2-11}{(x+1)(x+3)(x-2)}</math> in partial fractions. <span style="float: right;">4</span></p>
2015	B6	(a) Express $\frac{1}{1-y^2}$ in partial fractions. <span style="float: right;">3</span>