

# Algebraic Fractions & Factorising

YEAR	PAPER	QUESTION
2014	2	Express $\frac{7}{x+5} - \frac{3}{x}$ $x \neq -5, x \neq 0$ as a single fraction in its simplest form. <span style="float: right;">3</span>
2015	1	Simplify $\frac{x^2 - 4x}{x^2 + x - 20}$ . <span style="float: right;">3</span>
2015	2	Express $\frac{5t}{s} \div \frac{t}{2s^2}$ in its simplest form. <span style="float: right;">3</span>
2016	1	Solve the equation  $\frac{2x}{3} - \frac{5}{6} = 2x.$ Give your answer in its simplest form. <span style="float: right;">3</span>
2016	2	Factorise fully $3x^2 - 48$ . <span style="float: right;">2</span>
2016	2	Express  $\frac{3}{x-2} + \frac{5}{x+1}, \quad x \neq 2, x \neq -1$ as a single fraction in its simplest form. <span style="float: right;">3</span>
2017	1	Express $\frac{3}{a^2} - \frac{2}{a}$ , $a \neq 0$ , as a single fraction in its simplest form. <span style="float: right;">2</span>
2017	2	(a) Factorise $4x^2 - 25$ . <span style="float: right;">1</span>  (b) Hence simplify $\frac{4x^2 - 25}{2x^2 - x - 10}$ . <span style="float: right;">3</span>

2018	2	<p>Express</p> $\frac{n}{n^2-4} \div \frac{3}{n-2}, \quad n \neq -2, n \neq 2$ <p>as a single fraction in its simplest form. <span style="float: right;">3</span></p>
2019	1	<p>Solve the equation <math>\frac{x}{2} - 1 = \frac{3-x}{5}</math>. <span style="float: right;">3</span></p>
2019	2	<p>Find an expression for the gradient of the line joining point A(6,9) to point B(4p,4p<sup>2</sup>).</p> <p>Give your answer in its simplest form. <span style="float: right;">3</span></p>
2019	2	<p>Express</p> $\frac{4}{x-2} - \frac{3}{x+5}, \quad x \neq 2, x \neq -5$ <p>as a single fraction in its simplest form. <span style="float: right;">3</span></p>
2022	1	<p>Express <math>\frac{4}{x+2} \div \frac{5}{(x+2)^2}, x \neq -2</math> as a single fraction in its simplest form. <span style="float: right;">2</span></p>
2022	2	<p>Simplify <math>\frac{2ab+6a}{b^2-9}</math>. <span style="float: right;">3</span></p>