1B Multiplying & Dividing Algebraic Fractions

1. Simplify/ Solve

a) $\frac{1}{2} \times \frac{3}{5}$

b) $\frac{a}{c} \times \frac{b}{d}$

c) $\frac{3}{5} \times \frac{5}{9}$

d) $\frac{a}{b} \times \frac{c}{a}$

e) $\frac{x+1}{2} \times \frac{3}{x^2-1}$

2. Simplify/ Solve

a) $\frac{5}{6} \div \frac{1}{3}$

b) $\frac{a}{b} \div \frac{a}{c}$

c) $\frac{x+2}{x+4} \div \frac{3x+6}{x^2-16}$

1C Adding & Subtracting Algebraic Fractions

1. Simplify/ Solve

a) $\frac{1}{3}+\frac{3}{4}$

b) $\frac{a}{x}+b$

c) $\frac{3}{x+1}+\frac{4x}{x^2-1}$

1D Partial Fractions Introduction

1. Split

$$\frac{6x-2}{(x-3)(x+1)}$$

into partial fractions

2. Split

$$\frac{6x^2 + 5x - 2}{x(x-1)(2x+1)}$$

into partial fractions

1E Repeated Denominators

1. Split

$$\frac{11x^2 + 14x + 5}{(x+1)^2(2x+1)}$$

into partial fractions

1F/G Top Heavy Fractions

1. Given that $\frac{x^3+x^2-7}{x-3} \equiv Ax^2 + Bx + C + \frac{D}{x-3}$, find the values of A, B, C and D

2. Given that:

$$x^4 + x^3 + x - 10 \equiv (Ax^2 + Bx + C)(x^2 + 2x - 3) + Dx + E$$

find the values of A, B, C, D and E.

3. Split

$$\frac{3x^2 - 3x - 2}{(x-1)(x-2)}$$

into partial fractions