Section 3: Partial fractions

Exercise level 2

1. Express each of the following as the sum of partial fractions.

    (i) $\dfrac{x+7}{(x+1)(x-2)}$

    (ii) $\dfrac{x+1}{x^2-4}$

2. Express each of the following as the sum of partial fractions.

    (i) $\dfrac{4}{(1+3x)(1+x)^2}$ (ii) $\dfrac{13-7x}{(x-2)^2(x-3)}$

3. Express each of the following in partial fractions, and hence find the first four terms in the binomial expansion of each, stating the values of x for which the expansion is valid.

    (i) $\dfrac{x+5}{(x-1)(x+2)}$

    (ii) $\dfrac{7}{(1-2x)(x+3)}$

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