4.3) Using partial fractions

Worked example	Your turn
Find the cubic approximation of $$\frac{4 + 5x}{(1 - x)(2 + x)}$$ and state the range of values of x for which the expansion is valid	Find the cubic approximation of $$\frac{4 - 5x}{(1 + x)(2 - x)}$$ and state the range of values of x for which the expansion is valid $$2 - \frac{7}{2}x + \frac{11}{4}x^2 - \frac{25}{8}x^3$$ Valid for $|x| < 1$

Worked example	Your turn
Find the quadratic approximation of $$\frac{2x^2 - 5x - 10}{x^2 - x - 2}$$	Find the quadratic approximation of $$\frac{2x^2 + 5x - 10}{x^2 + x - 2}$$ $$5 + \frac{3}{2}x^2 + \cdots$$

Worked example	Your turn
Find the quadratic approximation of $$\frac{40x^2 - 37x + 9}{(4x-1)^2(x+2)}$$	Find the quadratic approximation of $$\frac{8x^2 - 13x + 6}{(2x-1)^2(x+1)}$$ $$6 + 5x + 23x^2$$