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## Binomial Expansion | Past Paper Question | C4 Edexcel Jan 2009 Q3(c)

$$f(x) = \frac{27x^3 + 32x + 16}{(3x+2)^2(1-x)} \equiv \frac{4}{(3x+2)^2} + \frac{3}{1-x}$$

$$f(x) \approx 4 + \frac{39}{4}x^2$$

$$\% \text{ error} = \frac{\text{error}}{\text{true value}} \times 100$$

true  $f(0.2) = 4.3417159\dots$

approx  $f(0.2) = 4.39$

$$\therefore \% \text{ error} = \frac{4.39 - 4.3417159\dots}{4.3417159\dots} \times 100$$

$$= 1.1120\dots$$

$$= 1.1\% \text{ (2s.f)}$$

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