

- 5 (a) Expand  $\sqrt{1-x}$  in ascending powers of  $x$  up to and including the term in  $x^3$   
Give each coefficient as an exact fraction in its lowest terms.

(3)

- (b) Using your expansion with a suitable value of  $x$ , obtain an approximation,  
to 6 decimal places, of  $\sqrt{0.92}$

(3)

- (c) Hence find an approximation, to 5 decimal places, of  $\sqrt{23}$

(2)

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**Question 5 continued**

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**(Total for Question 5 is 8 marks)**

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