

5 A circle has radius  $3r$  cm and area  $A$  cm<sup>2</sup>

Given that the value of  $r$  increases by 0.05%

use calculus to find an estimate for the percentage increase in the value of  $A$ .

(5)

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**Question 5 continued**

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

P 6 1 8 8 2 A 0 1 1 3 6