

3  $f$  varies inversely as the cube of  $r$ .

$$f = 576 \text{ when } r = \frac{1}{2}$$

(a) Find a formula for  $f$  in terms of  $r$ .

(3)

Given that  $f = 5 + \frac{1}{t}$  when  $r = 2$

(b) find the value of  $t$ .

(2)

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(Total for Question 3 is 5 marks)

