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14 F is inversely proportional to the square of v .

Given that $F = 6.5$ when $v = 4$

find a formula for F in terms of v .

.....
(Total for Question 14 is 3 marks)



14 B is inversely proportional to the square of d

$$B = 0.25 \text{ when } d = 12$$

Find a formula for B in terms of d

(Total for Question 14 is 3 marks)

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15 A is inversely proportional to C^2

$A = 40$ when $C = 1.5$

Calculate the value of C when $A = 1000$

$C = \dots\dots\dots$

(Total for Question 15 is 3 marks)

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16 A is inversely proportional to the square of r

$$A = 5 \text{ when } r = 0.3$$

(a) Find a formula for A in terms of r

(3)

(b) Find the value of A when $r = 7.5A$

$$A = \dots\dots\dots (3)$$

(Total for Question 16 is 6 marks)

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16 The following table gives values of x and y where y is inversely proportional to the square of x .

x	1.5	2	3	4
y	16	9	4	2.25

(a) Find a formula for y in terms of x .

.....
(3)

Given that $x > 0$

(b) find the value of x when $y = 144$

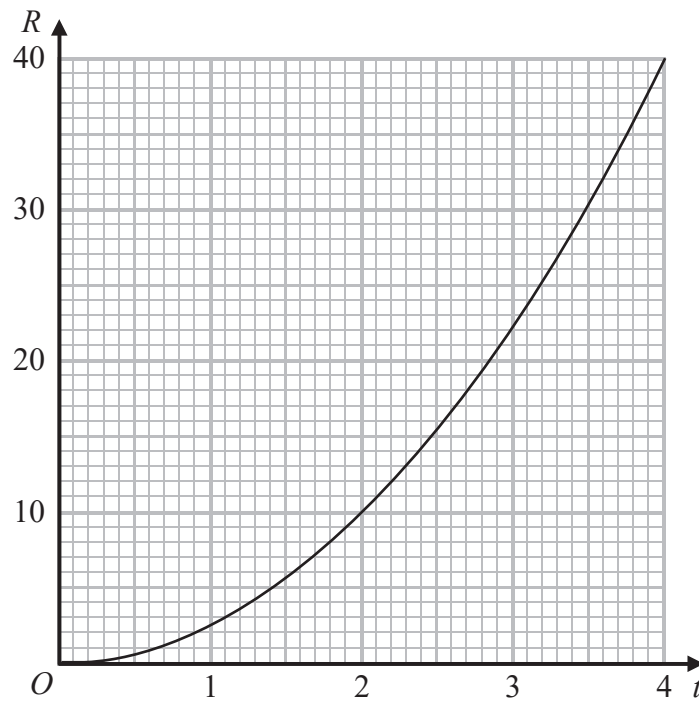
.....
(2)

(Total for Question 16 is 5 marks)



16 R is proportional to t^2

The graph shows the relationship between R and t for $0 \leq t \leq 4$



(a) Find a formula for R in terms of t .

(3)



Given also that $R = \frac{8}{5x}$

(b) show that t is inversely proportional to \sqrt{x} for $t > 0$

(2)

(Total for Question 16 is 5 marks)



17 F is inversely proportional to the square of r

$$F = 36 \text{ when } r = 4$$

(a) Find a formula for F in terms of r

.....
(3)

(b) Work out the value of F when $r = 48$

.....
(1)

(Total for Question 17 is 4 marks)



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17 y is inversely proportional to \sqrt{x}

$y = c^4$ when $x = c^2$ where c is a positive constant.

Find a formula for y in terms of x and c

Give your answer in its simplest form.

(Total for Question 17 is 3 marks)

