

Revision F3 (All topics) D [41]

1.

(a) Multiply out $s(s^2 + 6)$ (2)

(b) Simplify fully

(i) $(2t^3u) \times (3tu^2)$ (2)

(ii) $(2c^4)^3$ (2)

(Total 6 marks)

2.

(a) Work out $17\frac{1}{2}\%$ of 84 kg.

(2)

(b) Write down 1.75% of 840 km.

(1)

(Total 3 marks)

3.

Jane conducts a survey of the favourite colours of the students in her class. She records the results.

Male	Red	Female	Yellow
Male	Yellow	Female	Red
Male	Red	Female	Green
Female	Green	Female	Green
Female	Red	Male	Red
Male	Green	Male	Yellow
Male	Green		

Record the results in a two-way table.

(Total 3 marks)

4. Non-calculator

Find an approximate value of

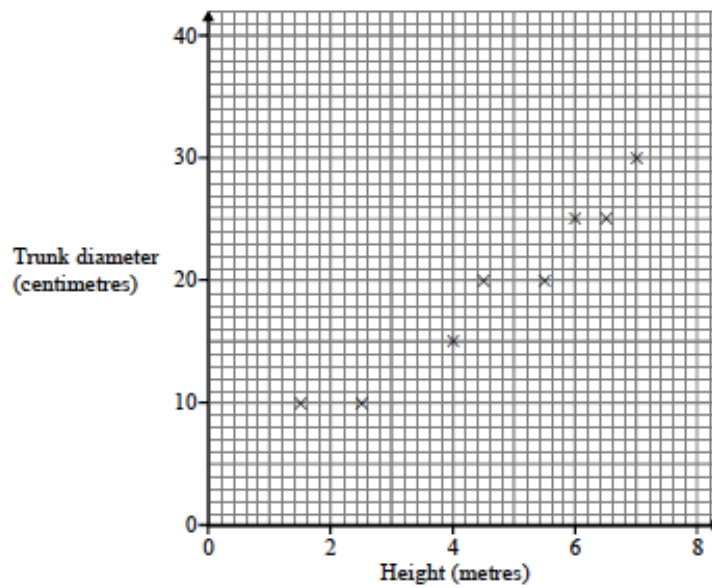
$$\frac{391 \times 3.08}{0.613}$$

You **must** show all your working.

(Total 3 marks)

5.

The scatter graph shows the height and trunk diameter of each of eight trees.



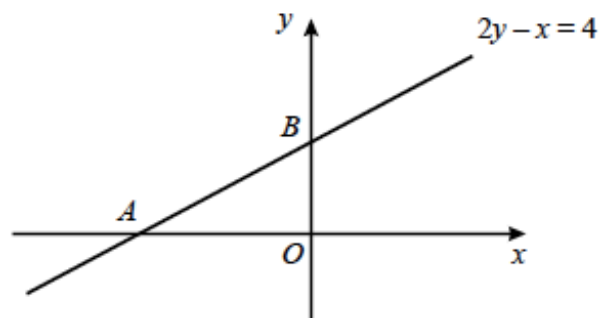
- (a) What is the height of the tallest tree? (1)
- (b) Draw a line of best fit through the points on the scatter graph. (1)
- (c) Describe the relationship shown in the scatter graph. (1)
- (d) (i) Estimate the height of a tree with trunk diameter 35 centimetres. (1)
- (ii) Comment on the reliability of your estimate. (1)

(Total 5 marks)

6.

A sketch of the line $2y - x = 4$ is shown.

The line crosses the axes at A and B .



- (a) Calculate the coordinates of A and B . (2)
- (b) Calculate the gradient of the line AB . (2)

(Total 4 marks)

7.

In a test there are 30 questions.

All candidates start with 25 marks.

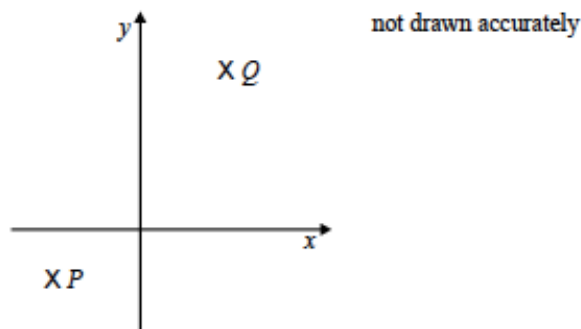
Every correct answer scores 4 marks, but for every wrong answer 1 mark is deducted.

- (a) Jack attempts every question, getting x of them correct.
Write down an expression, in x , for the number of questions he got wrong. (1)
- (b) Write down an expression for Jack's total mark. (Remember that he starts with 25). (2)
- (c) Jack scores 80 marks in the test.
Use your answer to part (b) to calculate the value of x , the number of questions he got correct. (3)

(Total 6 marks)

8.

The sketch below shows the points $P(-3, -2)$ and $Q(5, 13)$.



- (a) Calculate the length of PQ . (3)
- (b) Find the equation of the line which is parallel to PQ and passes through the point $(0, 2)$. (4)

(Total 7 marks)

9.

Non-calculator

Find the exact value of x in the right-angled triangle below.

(Total 4 marks)

