Write your name here

Surname	Other Names

Mathematics
November 2018 Paper 3 (Calculator Allowed)
Part 2 (Second half of the paper)
Edexcel Foundation Tier

Time: 45 minutes

Q	Topic	Max Mark	My Marks
18	Percentage Increase, Money Problems	4	
19	Inequalities	7	
20	Rounding, Using a Calculator	3	
21	Percentage Change, Percentage Increase	3	
22	Quadratic Graphs	5	
23	Bar Charts, Percentage, Estimate the Mean	6	
24	Compound Measures, Speed	4	
25	Sharing Ratio, Trigonometry SOHCAHTOA	4	
26	Sequences, Nth Term	2	
	Total	38	

18 Trevor buys a boat.
The cost of the boat is £14 200 plus VAT at 20%

Trevor pays a deposit of £5000
He pays the rest of the cost in 10 equal payments.

Work out the amount of each of the 10 payments.

£...

(Total for Question 18 is 4 marks)

19 (a) On the number line, show the inequality $x < 4$

$$\begin{array}{ccccccccccc} -5 & -4 & -3 & -2 & -1 & 0 & 1 & 2 & 3 & 4 & 5 \end{array} \quad x$$
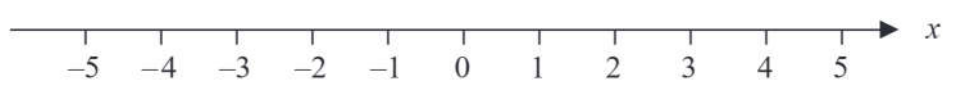
(2)

$3 < y \leqslant 7$ where y is an integer.

(b) Write down all the possible values of y.

....

(2)

(c) Solve $3x + 5 \geqslant x + 17$

....

(3)

(Total for Question 19 is 7 marks)

20 (a) Write 7357 correct to 3 significant figures.

....

(1)

(b) Work out $\dfrac{\sqrt{17 + 4^2}}{7.3^2}$

Write down all the figures on your calculator display.

....

(2)

(Total for Question 20 is 3 marks)

21 Last year Jo paid £245 for her car insurance.
   This year she has to pay £883 for her car insurance.

   Work out the percentage increase in the cost of her car insurance.

......................................%

(Total for Question 21 is 3 marks)

22 (a) Complete this table of values for $y = x^2 + x - 4$

x	−3	−2	−1	0	1	2	3
y		−2	−4		−2		

(2)

(b) On the grid, draw the graph of $y = x^2 + x - 4$ for values of x from −3 to 3
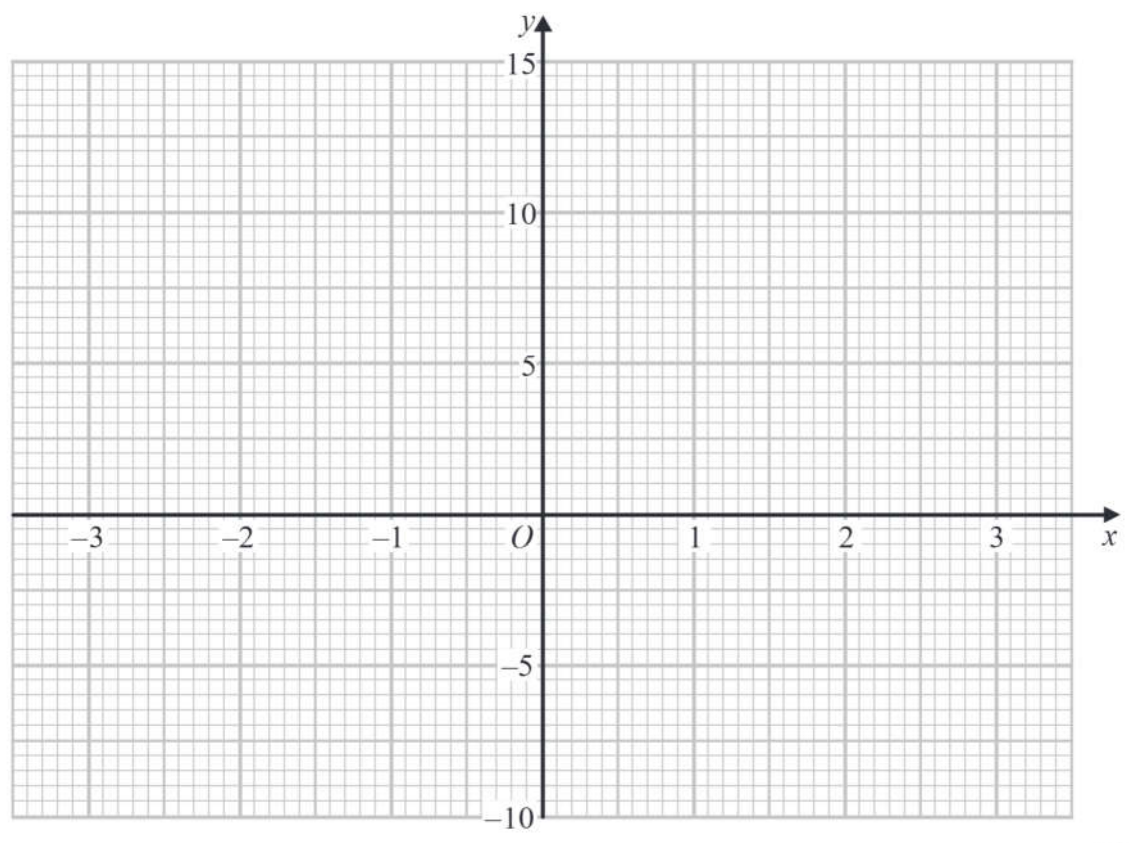
(2)

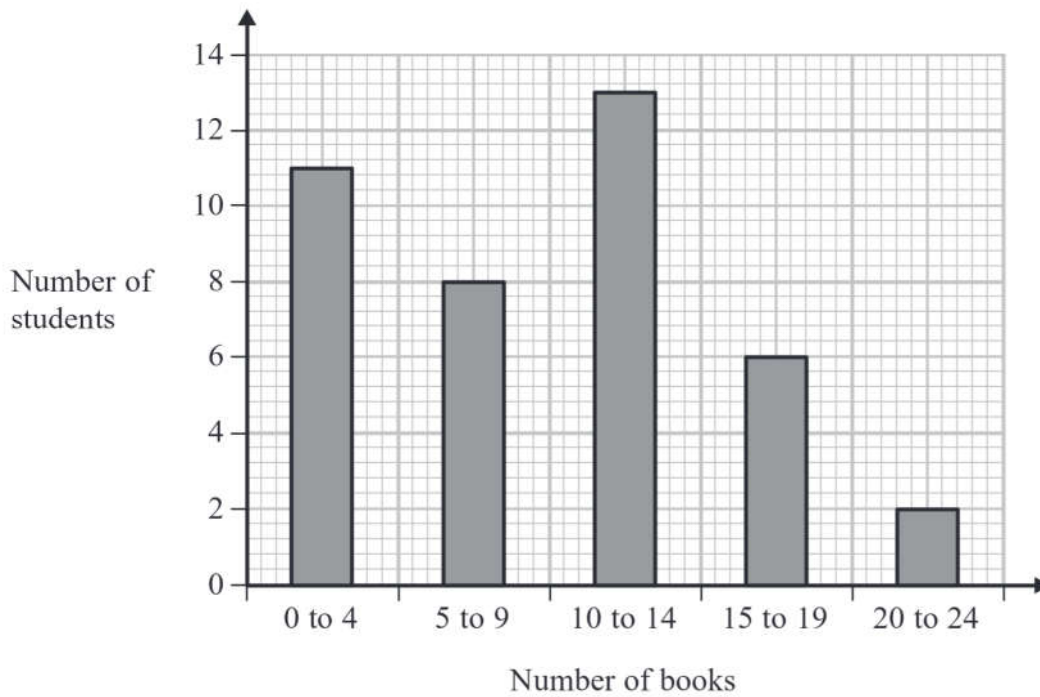(c) Use the graph to estimate a solution to $x^2 + x - 4 = 0$

....

(1)

(Total for Question 22 is 5 marks)

23 Fran asks each of 40 students how many books they bought last year.

The chart below shows information about the number of books bought by each of the 40 students.

(a) Work out the percentage of these students who bought 20 or more books.

....%

(2)

(b) Show that an estimate for the mean number of books bought is 9.5
You must show all your working.

(4)

(Total for Question 23 is 6 marks)

24 Lara is a skier.

She completed a ski race in 1 minute 54 seconds.
The race was 475 m in length.

Lara assumes that her average speed is the same for each race.

(a) Using this assumption, work out how long Lara should take to complete a 700 m race.
Give your answer in minutes and seconds.

.... minutes .... seconds

(3)

Lara's average speed actually increases the further she goes.

(b) How does this affect your answer to part (a)?

....

....

(1)

(Total for Question 24 is 4 marks)

25 *ABC* is a right-angled triangle.
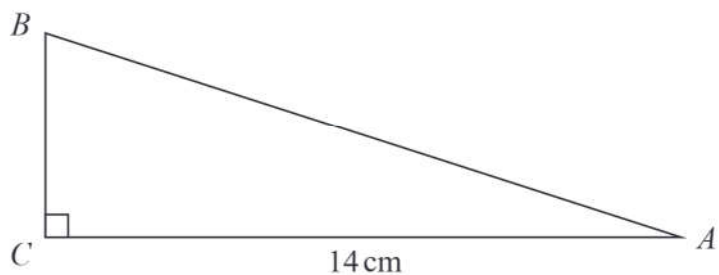
AC = 14 cm.
Angle *C* = 90°

size of angle *B* : size of angle *A* = 3 : 2

Work out the length of *AB*.
Give your answer correct to 3 significant figures.

....cm

(Total for Question 25 is 4 marks)

26 Here are the first four terms of an arithmetic sequence.

$$5 \qquad 11 \qquad 17 \qquad 23$$

Write down an expression, in terms of n, for the nth term of the sequence.

....

(Total for Question 26 is 2 marks)

TOTAL FOR PAPER IS 80 MARKS