Surname	Centre Number	Candidate Number
Other Names		0

GCSE

4370/03

A14-4370-03

MATHEMATICS – LINEAR
PAPER 1
FOUNDATION TIER

A.M. WEDNESDAY, 5 November 2014

1 hour 45 minutes

Suitable for Modified Language Candidates

CALCULATORS ARE NOT TO BE USED FOR THIS PAPER

ADDITIONAL MATERIALS

A ruler, a protractor and a pair of compasses may be required.

INSTRUCTIONS TO CANDIDATES

Use black ink or black ball-point pen.

Write your name, centre number and candidate number in the spaces at the top of this page.

Answer **all** the questions in the spaces provided.

Take π as 3·14.

INFORMATION FOR CANDIDATES

You should give details of your method of solution when appropriate.

Unless stated, diagrams are not drawn to scale.

Scale drawing solutions will not be acceptable where you are asked to calculate.

The number of marks is given in brackets at the end of each question or part-question.

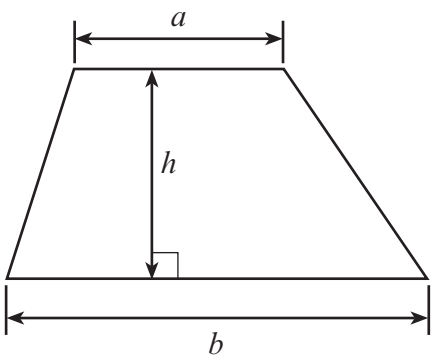
You are reminded that assessment will take into account the quality of written communication (including mathematical communication) used in your answer to question **2***(c)*.

For Examiner's use only		
Question	**Maximum Mark**	**Mark Awarded**
1.	**12**	
2.	**7**	
3.	**4**	
4.	**11**	
5.	**6**	
6.	**4**	
7.	**3**	
8.	**4**	
9.	**6**	
10.	**3**	
11.	**6**	
12.	**6**	
13.	**3**	
14.	**3**	
15.	**6**	
16.	**7**	
17.	**5**	
18.	**4**	
Total	**100**	

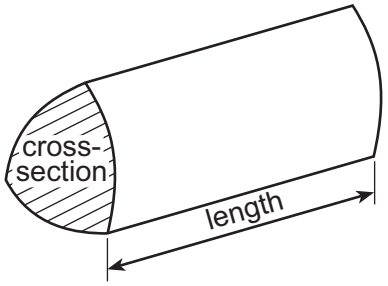
4370 030001

Formula List

Area of trapezium $= \frac{1}{2}(a + b)h$



Volume of prism = area of cross-section × length



Examiner only

1. *(a)* (i) Write down, in figures, the number fifty two thousand and four. [1]

.....

(ii) Write down, in words, the number 6 700 000. [1]

.....

(b) Using only the numbers in the following list,

36 37 47 53 56 44 81 34

write down

(i) two numbers that add up to 80, [1]

.....

(ii) the number which must be added to 46 to make 83, [1]

.....

(iii) a multiple of 8, [1]

.....

(iv) the square number that is also an odd number. [1]

.....

(c) Write 79 634

(i) correct to the nearest 100, [1]

.....

(ii) correct to the nearest 1000. [1]

.....

(d) Write down all the factors of 12. [2]

.....

.....

(e) A packet of paper costs £2.97. How many packets of paper can be bought for £15? [2]

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4370 030003

Turn over.

Examiner only

2. *(a)* Write down the value of the 7 in the number 12 762. [1]

.....

(b) Write down a prime number between 20 and 30. [1]

.....

(c) *You will be assessed on the quality of your written communication in this part of the question.*

Disha has £6.
She buys some pineapples at 80p each. She has 40p left over.
How many pineapples did she buy?
You must show all your working. [5]

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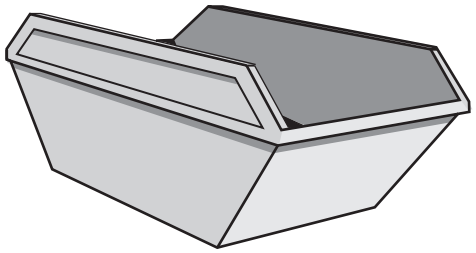
Examiner only

3. The formula for the cost of hiring a skip is given below.



cost of hire = number of days x £40 + delivery charge

(a) Jac hired a skip for 5 days. The cost was £250.
What was the delivery charge? [2]

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(b) On another occasion, Jac hired a skip for £350. The delivery charge was £30.
For how many days did he hire the skip? [2]

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030005

Turn over.

Examiner only

4. Rhian went to a sporting event. She carried out a survey to find out from which continent each athlete had come. Her results are shown below.

Continent	Europe	Africa	Asia	The Americas	Australasia
Number of athletes	40	30	35	70	25

(a) Draw a pictogram to represent the above information. Use  to represent 20 athletes. [4]

Europe	
Africa	
Asia	
The Americas	
Australasia	

(b) Draw a bar chart to represent the above information. Use the centimetre squared paper on the next page for your bar chart. [4]

(c) Write down the mode. [1]

.....

(d) An athlete is chosen at random from this group. Find the probability that this athlete comes from Africa. [2]

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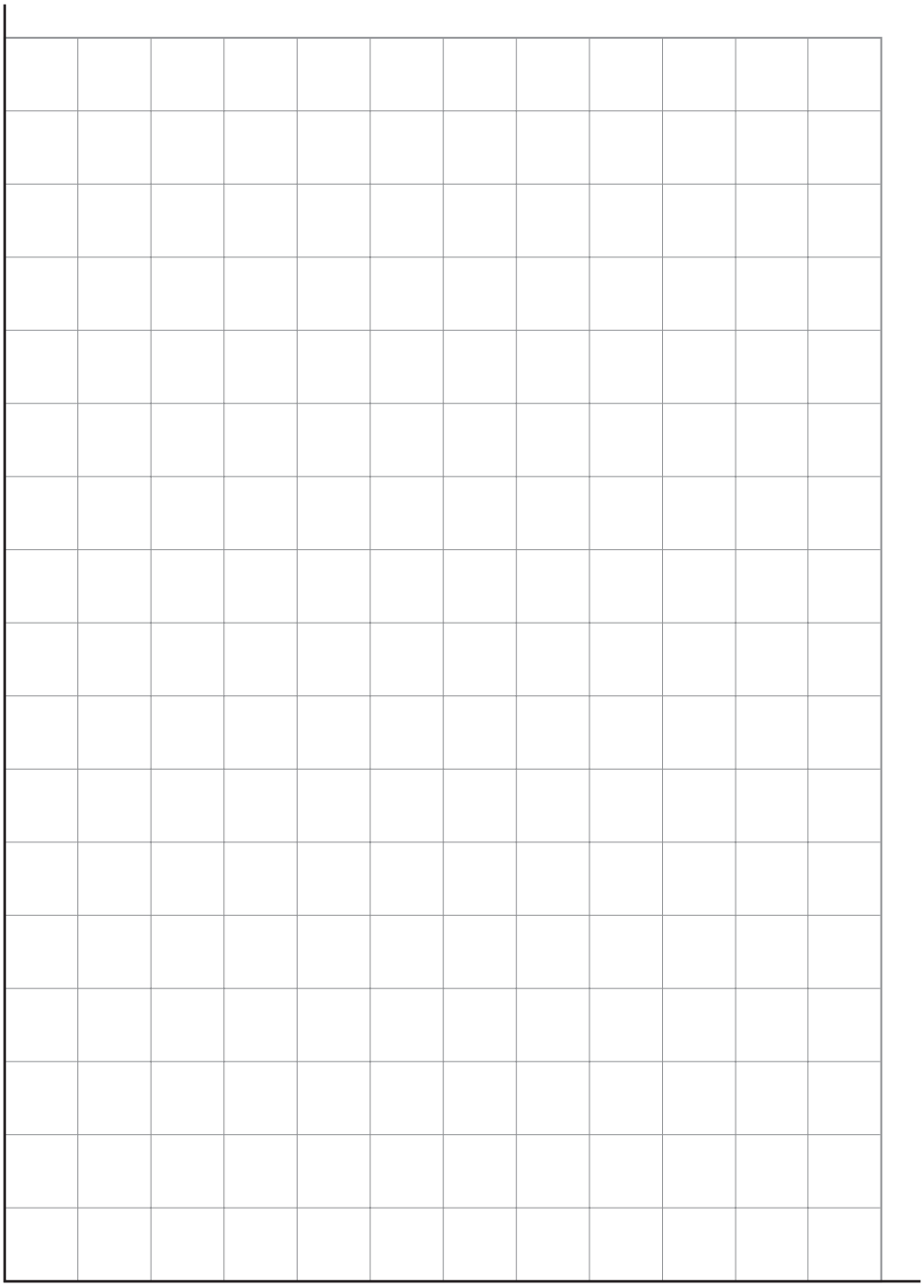
Examiner only



Turn over.

Examiner only

5. Three identical rectangles measure 7 cm by 3 cm each. The rectangles are placed together to make the shape shown in the diagram.

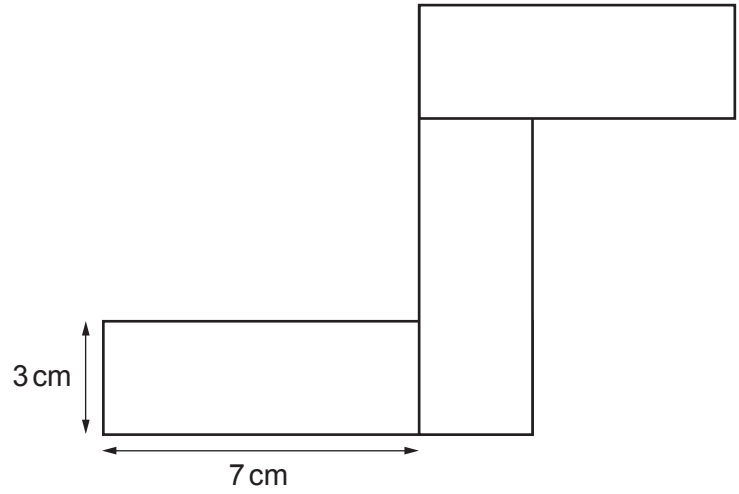


Diagram not drawn to scale

(a) Calculate the perimeter of the shape. [3]

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(b) Calculate the area of the shape.
Write down the units of your answer. [3]

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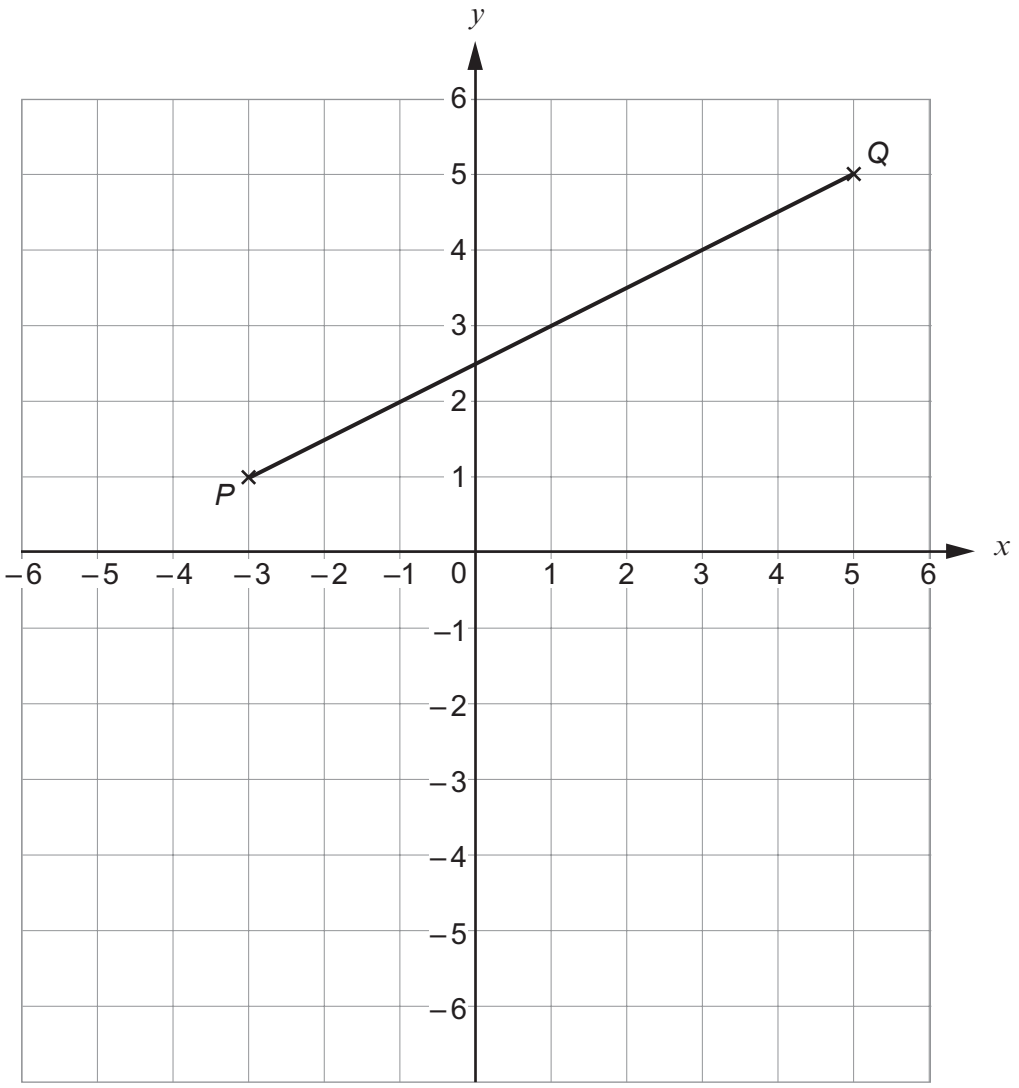
Examiner only

6.



(a) Write down the coordinates of the point *P*. [1]

(..... , ...)

(b) The point *R* lies on the line *PQ*.
The y-coordinate of *R* is 4.
What is the x-coordinate of the point *R*? [1]

x-coordinate = ...

(c) The coordinates of the point (1, 3) add up to 4.
Write down the coordinates of the point on *PQ* which add up to 1. [2]

(..... , ...)

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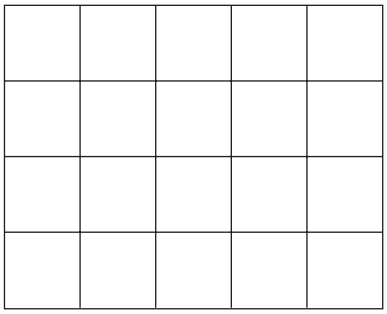
Examiner only

7. Three children share 20 cubes.
Melanie takes 25% of the cubes.
John and Denise share the rest of the cubes.
John gets more cubes than Denise.



What is the greatest number of cubes that Denise could get? [3]

8. Gayle buys 8 biros for £3.
Three of them are black.
The others are red.
Each red biro costs 45p.
What is the cost of one black biro? [4]

Examiner only

9. *(a)* Simplify $4x - 2y - 3x + 5y$. [2]

(b) Solve $5t - 6 = 9$. [2]

(c) Find the value of $2p + 5q$ when $p = -3$ and $q = 2$. [2]

Turn over.

Examiner only

10. The sketch shows a triangular plot of land. A church is at point *C*, a school is at point *S* and a bus stop is at point *B*. The actual straight line distances between these places are also shown on the diagram.

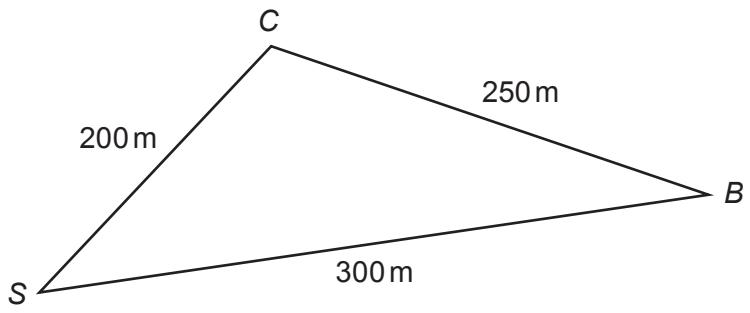


Diagram not drawn to scale

Construct a scale drawing of the plot of land. Use a scale of 1 cm to represent 25 m. [3]

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Examiner only

11. In a game, a player rolls a coin onto a board marked out in squares.
The squares on the board are coloured red, blue or green.
If the coin lands entirely within one of these coloured squares the player wins a prize.
Otherwise the player loses.

The table below shows the probabilities of the coin landing entirely within each coloured square.

Colour	Red	Blue	Green
Probability	0·13	0·14	0·04

(a) What is the probability that a player wins a prize? [2]

(b) One day 200 people play this game. How many people would you expect to win a prize? [2]

(c) It costs 70p to play the game once. The prize for winning is £1.50. If the 200 people play the game once, how much profit do you expect the game to make? [2]

Examiner only

12. *(a)* *ABCD* is a parallelogram with $A\hat{D}C = 46°$ and $A\hat{C}B = 59°$.
Find the size of angle x. [3]

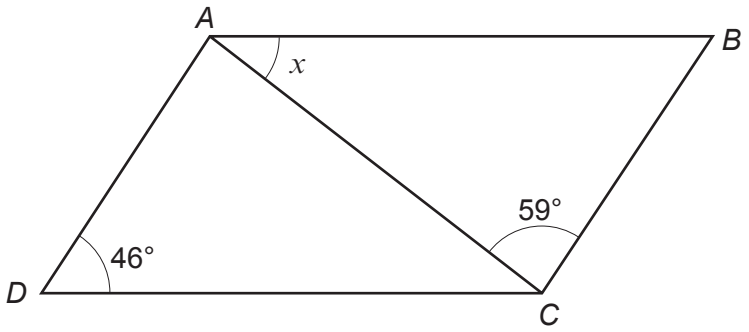

Diagram not drawn to scale

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x = ... °

(b) Find the size of angle y. [3]

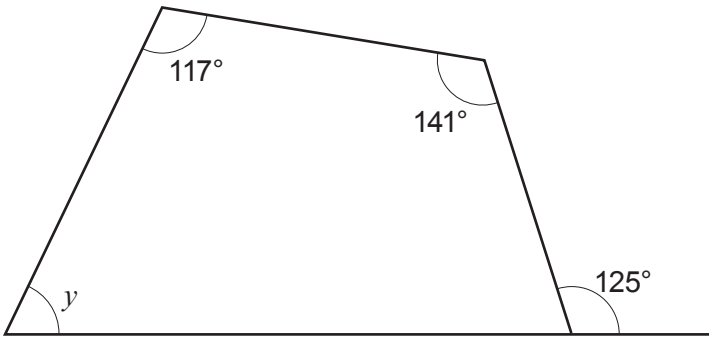

Diagram not drawn to scale

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y = ... °

Examiner only

13. The following is part of a train timetable from Bangor to Chester.

Bangor	11:07	12:24	13:07
Llandudno Junction	11:25	12:42	13:25
Colwyn Bay	11:31	12:48	13:31
Rhyl	11:41	12:59	13:41
Prestatyn	11:47	13:05	13:47
Flint	12:00	13:18	14:00
Chester	12:19	13:32	14:19

(a) Bob catches the 11:31 train from Colwyn Bay.
When should the train arrive at Prestatyn? [1]

.....

(b) Mary catches the 13:25 train at Llandudno Junction.
How long should it take her to get to Chester? [2]

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14. Express 240 as a product of prime numbers in index form. [3]

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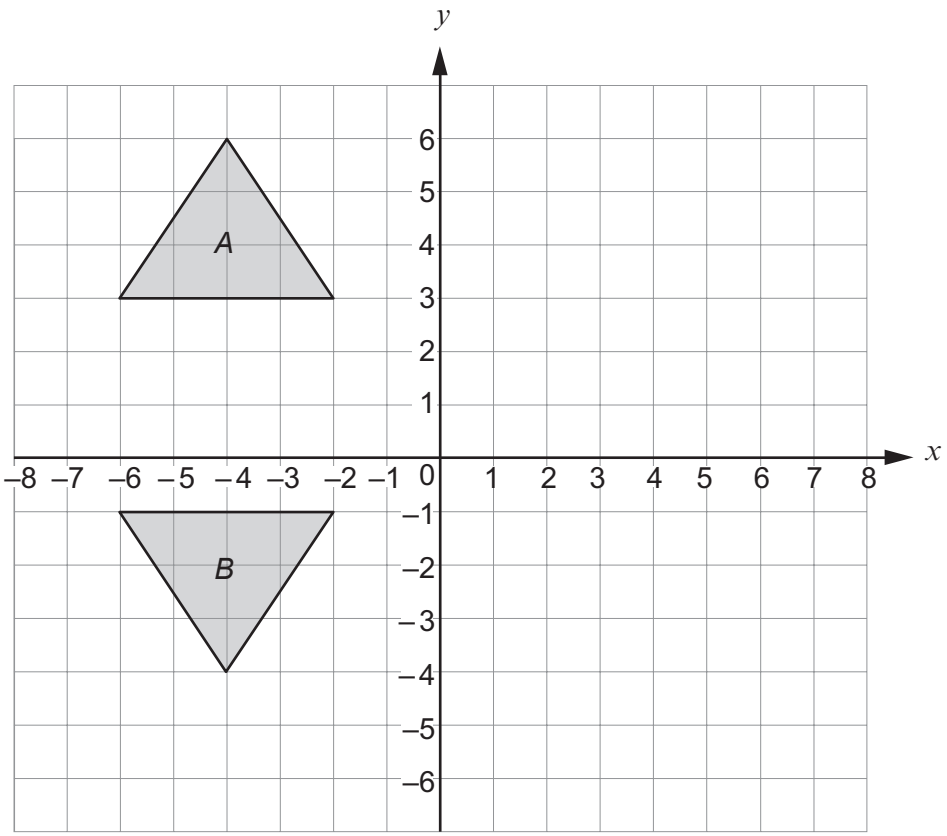
Examiner only

15.



The diagram shows the transformation of triangle *A* to triangle *B*.

(a) Fully describe a possible transformation of triangle *A* to triangle *B*. [2]

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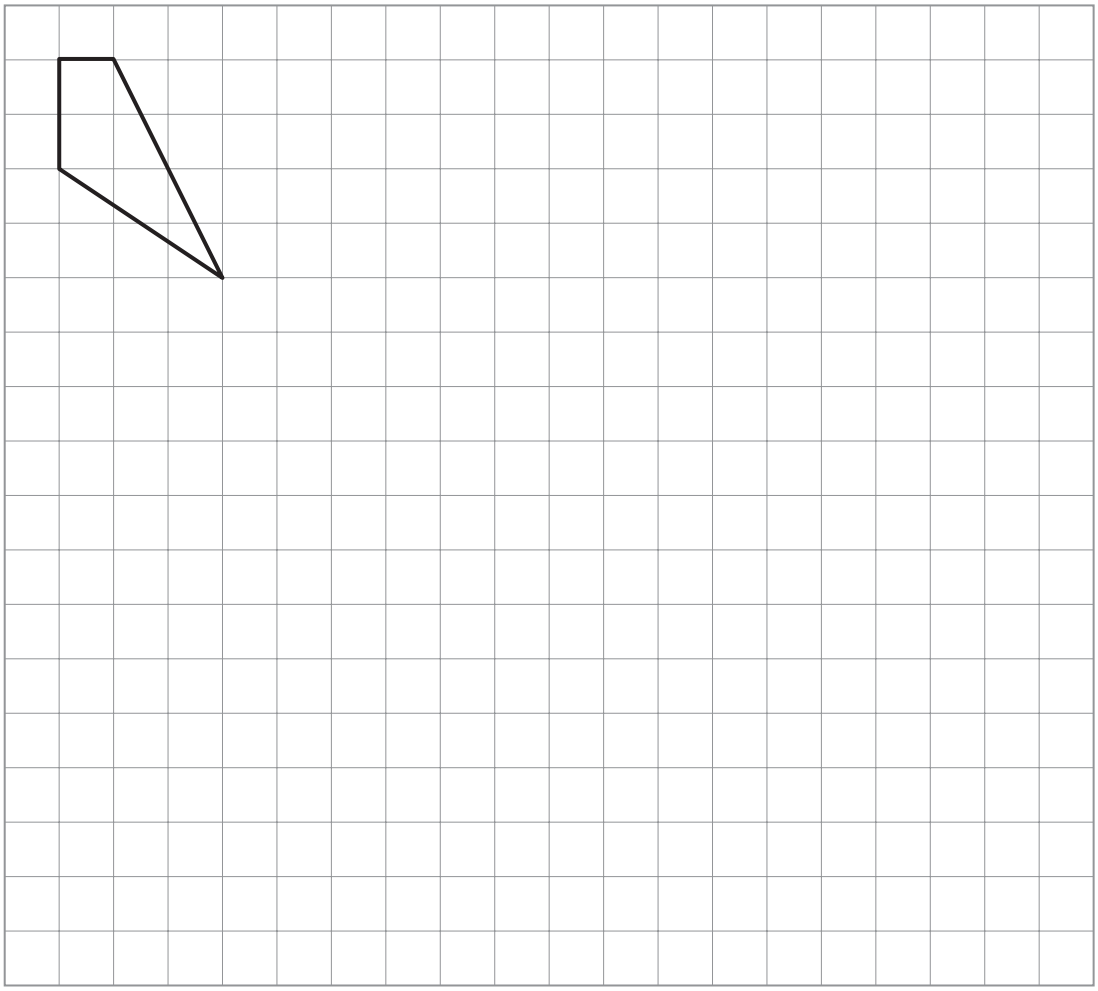
(b) Rotate triangle *A* through 90° clockwise about the origin.
Label your answer *C*. [2]

Examiner only

(c) Draw an enlargement of the shape below. Use a scale factor of 2. [2]



Examiner only

16. Sophie is going on holiday.

(a) Sophie travels a distance of 35 miles in 2 hours 30 minutes through busy traffic.

Calculate Sophie's average speed, in miles per hour. [3]

(b) Sophie's luggage weighs 22lb.

Approximately how much does her luggage weigh in kg? [1]

Examiner only

(c) Sophie is due to fly from Glasgow to San Francisco.
She arrives at Glasgow airport on Wednesday at 13:40.
She has to wait 4 hours 25 minutes for her flight.

It takes 13 hours to fly between Glasgow and San Francisco.
She knows that the time in Glasgow is 8 hours ahead of the time in San Francisco.
For example, when it is 10:00 a.m. in Glasgow it is 2:00 a.m. in San Francisco.

On which day and at what time does Sophie expect to arrive in San Francisco airport?
You must show all your working. [3]

Day ..... Time .....

Examiner only

17. *(a)* Solve $5x - 12 = 3(x + 6)$. [3]

(b) Solve the inequality $9x + 5 < 77$. [2]

Examiner only

18. The diagram shows a rectangle *ABCD*.

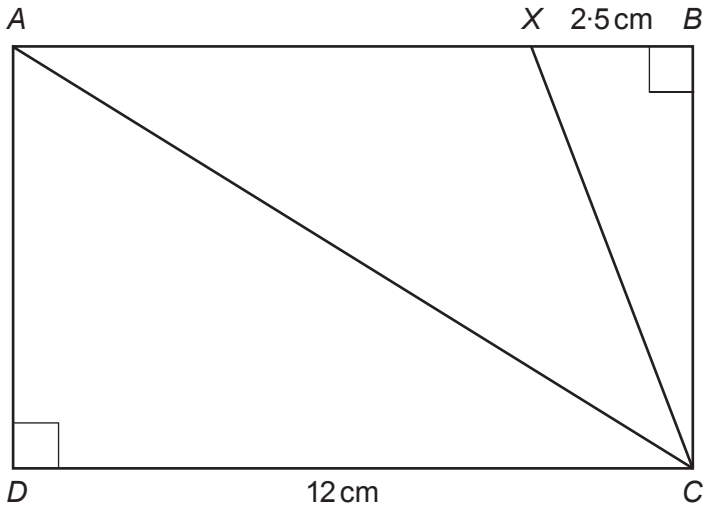


Diagram not drawn to scale

Given that $XB = 2{\cdot}5\,\text{cm}$, $DC = 12\,\text{cm}$ and the area of triangle *ADC* is $60\,\text{cm}^2$, calculate the area of triangle *XBC*. [4]

END OF PAPER

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