

Surname	Centre Number	Candidate Number
Other Names		0



**GCSE**

4370/03

**MATHEMATICS – LINEAR  
PAPER 1  
FOUNDATION TIER**

A.M. TUESDAY, 6 November 2012

1  $\frac{3}{4}$  hours

**Suitable for Modified Language Candidates**

<p><b>CALCULATORS ARE NOT TO BE USED FOR THIS PAPER</b></p>
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**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  $\pi$  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.

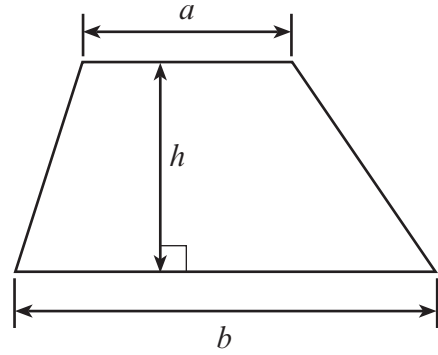
You are reminded that assessment will take into account the quality of written communication (including mathematical communication) used in your answer to question 6.

For Examiner's use only		
Question	Maximum Mark	Mark Awarded
1	9	
2	9	
3	4	
4	9	
5	6	
6	7	
7	4	
8	4	
9	8	
10	6	
11	6	
12	5	
13	9	
14	7	
15	3	
16	4	
<b>TOTAL MARK</b>		

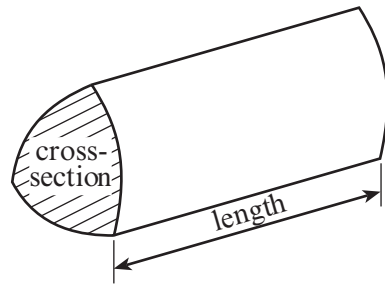
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**Formula List**

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



**Volume of prism** = area of cross-section  $\times$  length



1. (a) (i) A car manufacturer sells six thousand, five hundred and eighty three cars. Write down this number in figures.

..... [1]

(ii) The weekly sales for a local newspaper is 13406. Write down this number in words.

..... [1]

(b) Add together 85 and 97.

..... [1]

(c) Find  $428 - 119$ .

..... [1]

(d) Write down a multiple of 8 that is between 70 and 79.

..... [1]

(e) Write 8736

(i) correct to the nearest 10,

..... [1]

(ii) correct to the nearest 100.

..... [1]

(f) Write down all the factors of 16.

..... [2]

.....

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[2]

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2. (a) Write down the value of the 8 in the number 18 623.

[1]

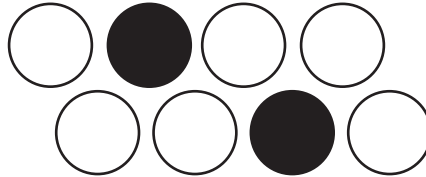
- (b) Write down a square number that is less than 100 **and** has a tens digit of 8.

[1]

- (c) Tom has a £10 note and a £5 note.  
He buys 10 packs of cards and has £1 left over.  
What is the cost of 1 pack of cards?

[3]

- (d) What percentage of the discs are black?



[1]

- (e) Find an **estimate** for the value of  $74.6 \times 99.7$ . **Show all your working.**

[2]

- (f) Write down the smallest prime number that is greater than 20.

[1]

3. The formula for the profit (in £) made by selling printers is

$$\text{profit} = \text{number sold} \times 24 - \text{outlay}$$

- (a) Find the **profit** when the **number sold** is 20 and the **outlay** is £150.

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[2]

- (b) A **profit** of £180 is made when the **number sold** is 10.  
Find the **outlay**.

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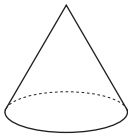
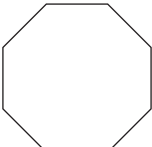
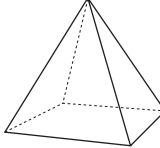
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[2]

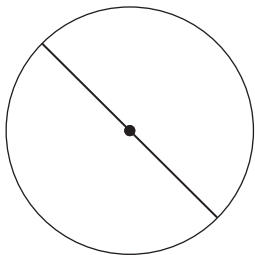
4. (a) Write down the special name of each of the following figures.

[3]

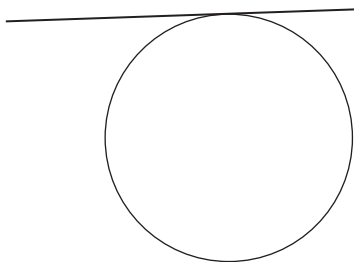
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(b) Write down the special name of the straight line shown in each of the following diagrams.

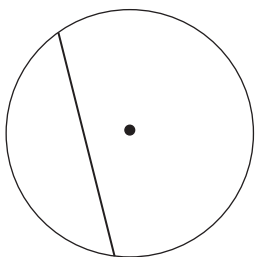
[3]



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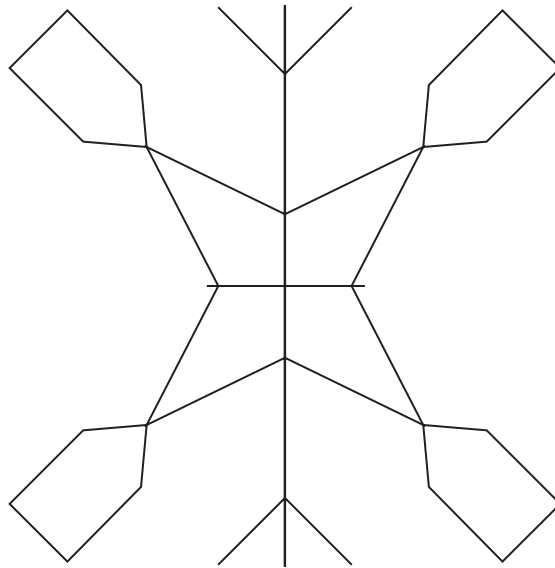
(c) Draw **all** the lines of symmetry on each of the following patterns.

Examiner  
only  
[3]

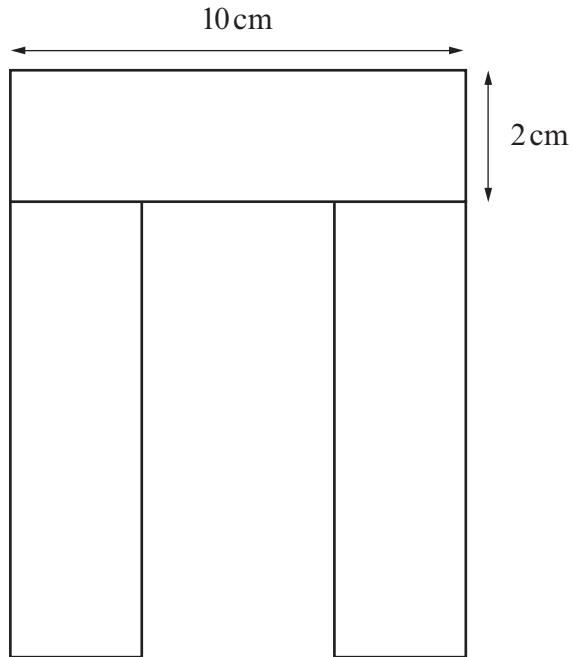
(i)



(ii)



5. Three identical rectangles are placed to make the shape shown in the diagram. Each rectangle measures 10 cm by 2 cm.



*Diagram not drawn to scale*

- (a) Calculate the perimeter of the shape.

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[3]

- (b) Calculate the area of the shape.  
Write down the units of your answer.

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[3]





7. The following table shows, for five different places,
- the temperatures at midday on 2 different days,
  - the change of temperature between the 2 days.
- Complete the table.

Place	Temperature on day 1	Temperature on day 2	Change in temperature
Bangor	-4	2	up 6
Toronto	3	-2	
Glasgow	-1		down 3
Moscow	-2	-6	
Reykjavik		-5	up 2

[4]

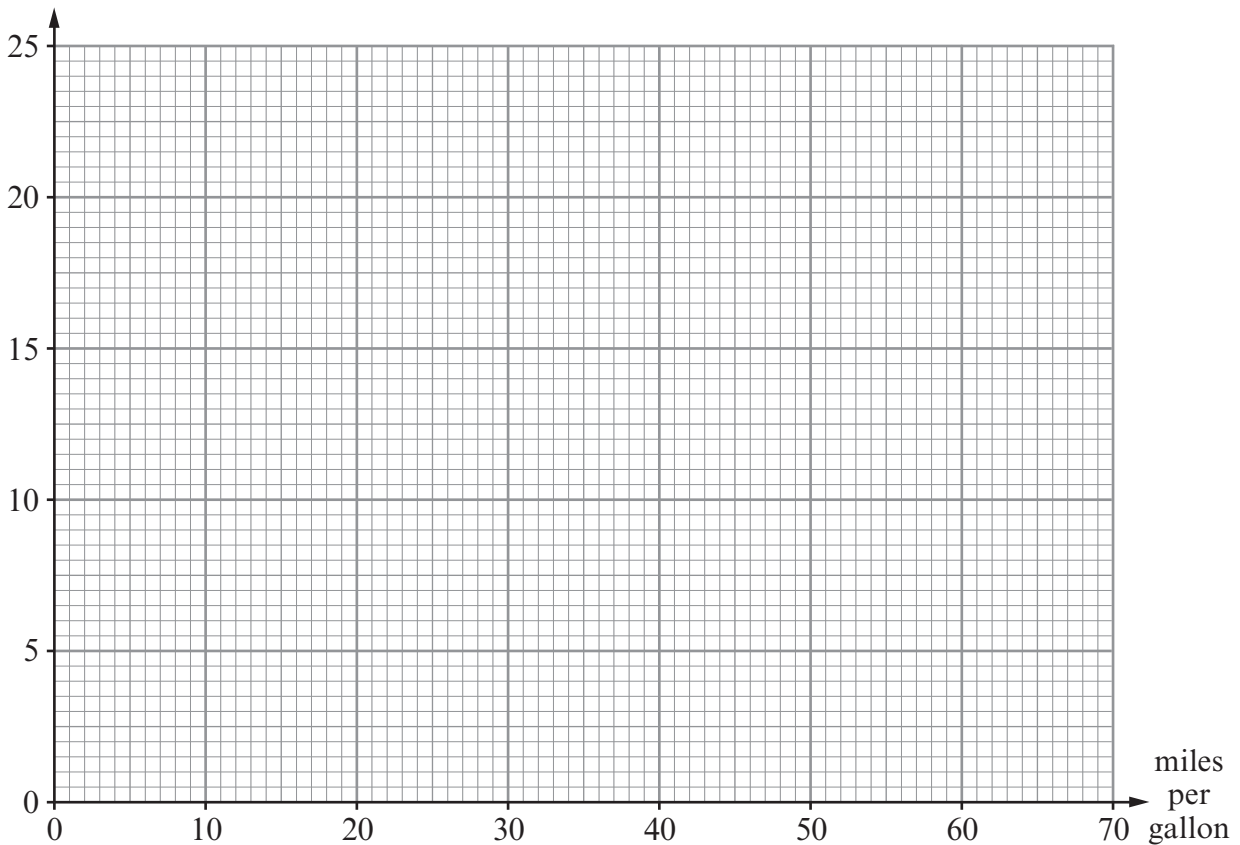
8. (a) The amount of fuel used by vehicles can be measured in miles per gallon **or** in kilometres per litre.  
The table shows 3 different values for the use in miles per gallon and the corresponding 3 values in kilometres per litre.

Miles per gallon	13	35	60
Kilometres per litre	4.6	12.4	21.2

Use the data in the table to draw a conversion graph between miles per gallon and kilometres per litre.

[2]

km per litre



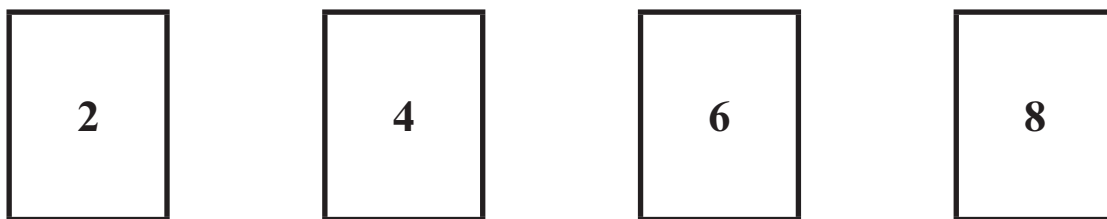
- (b) Find an estimate, in miles per gallon, for 40 kilometres per litre.

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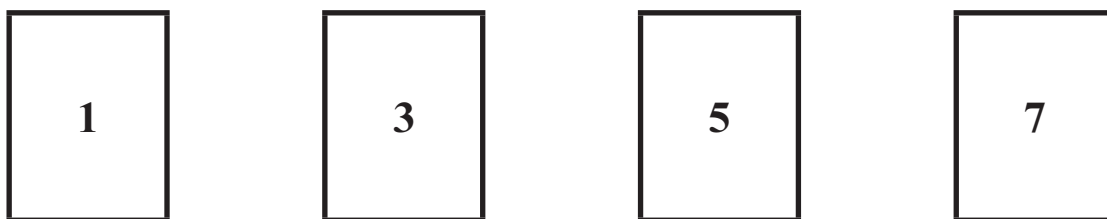
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[2]

9. There are two packs of cards. One pack is coloured red and the other pack is coloured blue. The red pack has four cards numbered



The blue pack has four cards numbered



In a game, a player chooses one card at random from the red pack and one card at random from the blue pack. The player's score is the difference between the two numbers.

For example, if the number on the red card is 8 and the number on the blue card is 5, the player works out  $8 - 5 = 3$  and the player scores 3.

Similarly, if the number on the red card is 2 and the number on the blue card is 3, the player works out  $3 - 2 = 1$  and the player scores 1.

- (a) Complete the following table to show all the possible scores.

Blue pack	7	.....	.....	1	1
	5	.....	.....	1	3
	3	1	1	.....	.....
	1	1	3	.....	.....
		2	4	6	8
		Red pack			

[2]

- (b) A player wins a prize by getting a score of 1.  
 It costs 50p to play the game once.  
 The prize for winning the game is 80p.  
 When 320 people play the game once, find the expected profit.

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[6]

10. (a) Find the size of the angle marked  $x$ .

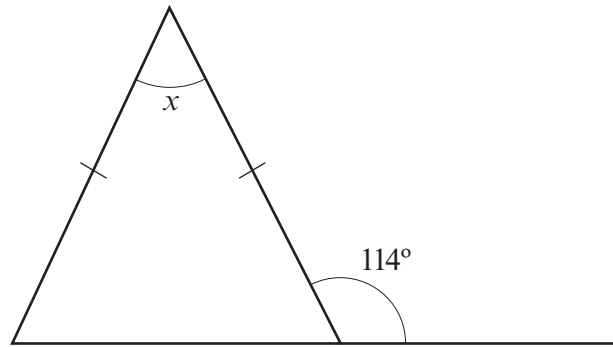


Diagram not drawn to scale

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.....

$x = \dots\dots\dots^\circ$

[3]

(b) Find the size of the angle marked  $y$ .

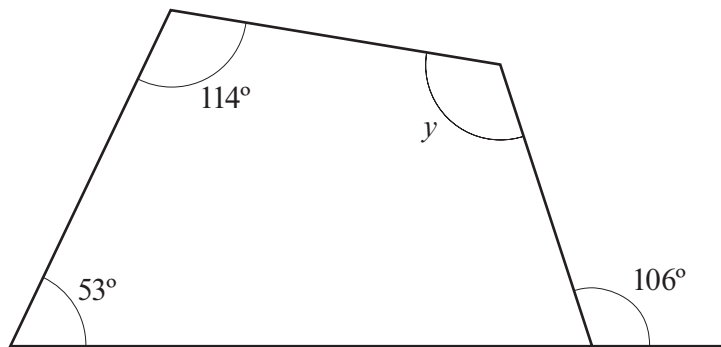


Diagram not drawn to scale

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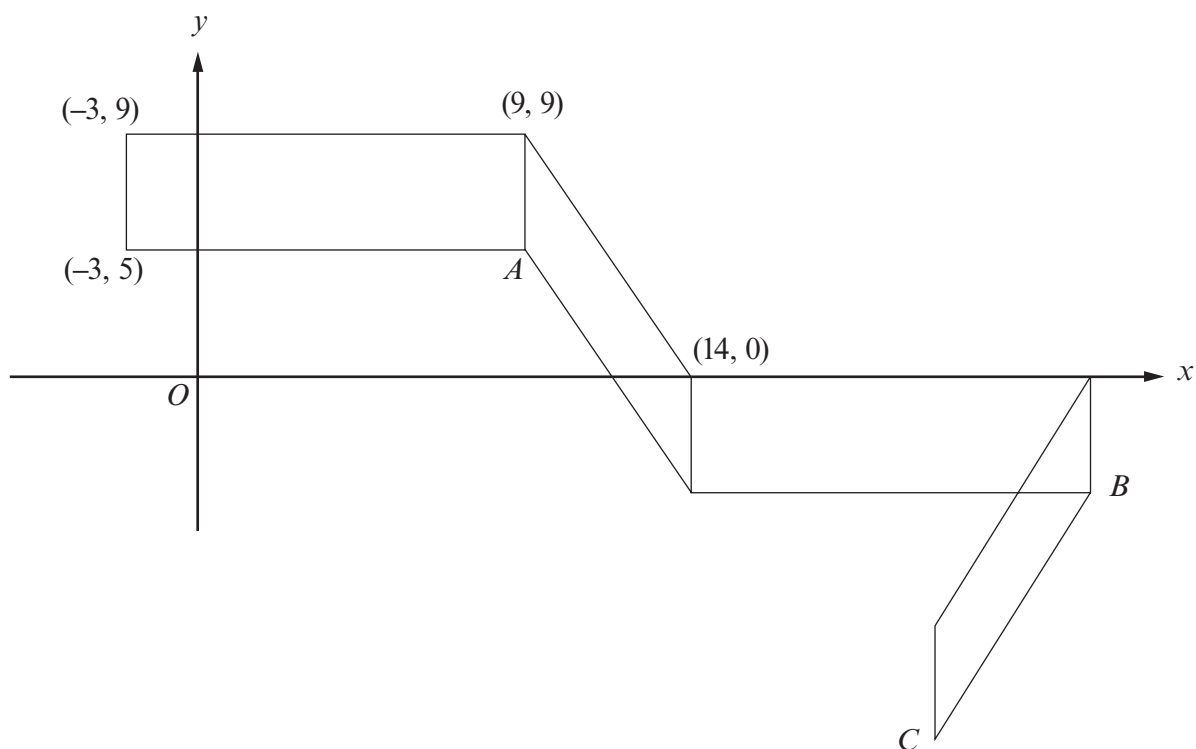
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$y = \dots\dots\dots^\circ$

[3]

11. The diagram shows 2 identical rectangles and 2 identical parallelograms. The coordinates of four vertices are shown on the diagram.

Find the coordinates of the vertices marked  $A$ ,  $B$  and  $C$ .



*Diagram not drawn to scale*

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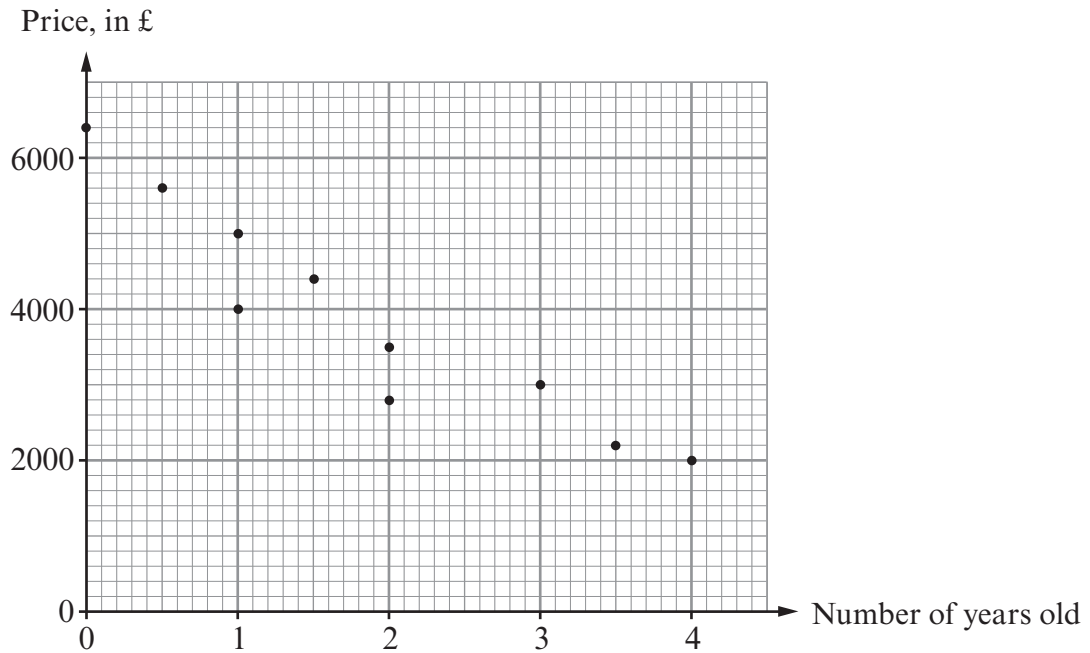
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$A$  ( ..... , ..... )       $B$  ( ..... , ..... )       $C$  ( ..... , ..... )

[6]

12. The scatter diagram shows the price and age for 10 cars. The cars are the same make and model.



- (a) Write down the price of the new car.

.....  
[1]

- (b) Write down the price of the oldest car.

.....  
[1]

- (c) Draw, by eye, a line of best fit on the scatter diagram.

.....  
[1]

- (d) Write down the type of correlation shown by the scatter diagram.

.....  
[1]

- (e) Estimate the price of a  $2\frac{1}{2}$  year old car of the same make and model.

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[1]



13. (a) Factorise  $24x + 3$ .

.....  
[1]

(b) Factorise  $x^2 - 6x$ .

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[1]

(c) Expand  $2x(x^3 + 6)$ .

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[2]

(d) Solve  $\frac{x}{3} + 15 = 25$ .

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[2]

(e) Solve  $5x - 7 = 3(x + 2)$ .

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[3]



15. Roz and Simon each throw a fair dice.  
Calculate the probability that the sum of the two numbers obtained is 4.

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[3]

16. Seven **single digit numbers** have a median of 6 and a range of 8.  
The mode of the seven numbers is 3.  
Find the seven numbers.  
Write your single digit numbers in order in the boxes.

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[4]