Candidate Name	Centre Number	Candidate Number
		0

GCSE

185/12

MATHEMATICS

WALES PILOT
FOUNDATION TIER
PAPER 2

A.M. FRIDAY, 12 November 2010

2 hours

For Examiner's use only		
Question	**Maximum Mark**	**Mark Awarded**
1	**6**	
2	**6**	
3	**5**	
4	**8**	
5	**4**	
6	**4**	
7	**5**	
8	**7**	
9	**6**	
10	**4**	
11	**3**	
12	**4**	
13	**4**	
14	**4**	
15	**5**	
16	**5**	
17	**3**	
18	**5**	
19	**6**	
20	**3**	
21	**3**	
TOTAL MARK		

ADDITIONAL MATERIALS

A calculator will be required for this paper.

INSTRUCTIONS TO CANDIDATES

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 or use the π button on your calculator.

INFORMATION FOR CANDIDATES

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

Unless stated, diagrams are not drawn to scale.

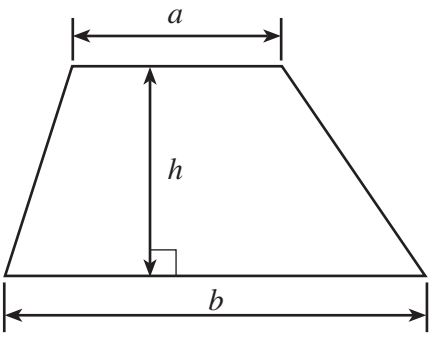
Scale drawing solutions will not be acceptable where you are asked to calculate.

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

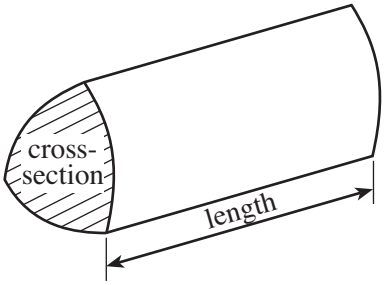
0185
120001

Formula List

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



Volume of prism = area of cross-section × length



1. *(a)* Jack buys 4 magazines at 68p each and 3 loaves of bread at £1.27 each.
How much does he spend altogether?

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[3]

(b) Four friends go to the cinema.
The tickets cost £4.38 each.
They pay for the tickets with a £20 note.
How much change should they receive in total?

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[3]

2. *(a)* Write $\frac{1}{2}$ as a decimal. .....

Write 0·6 as a fraction. .....

Write 40% as a decimal. .....

Write $\frac{1}{2}$, 0·6, 40% in descending order.

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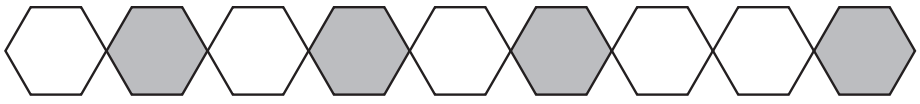
[4]

(b) (i) What fraction of the diagram is shaded?



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(ii) What fraction of the diagram is NOT shaded?

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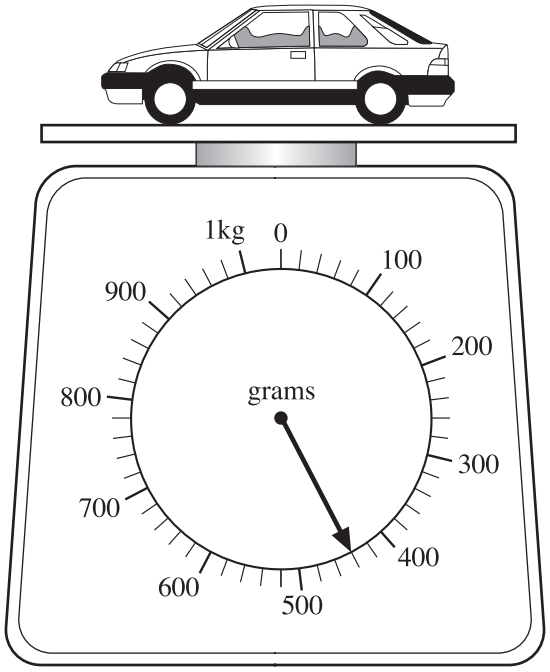
[2]

Examiner only

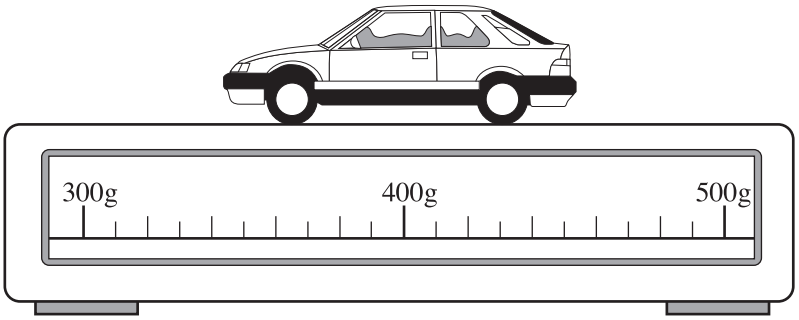
3. *(a)* How much does the toy car weigh?



The toy car weighs ..... g.

[1]

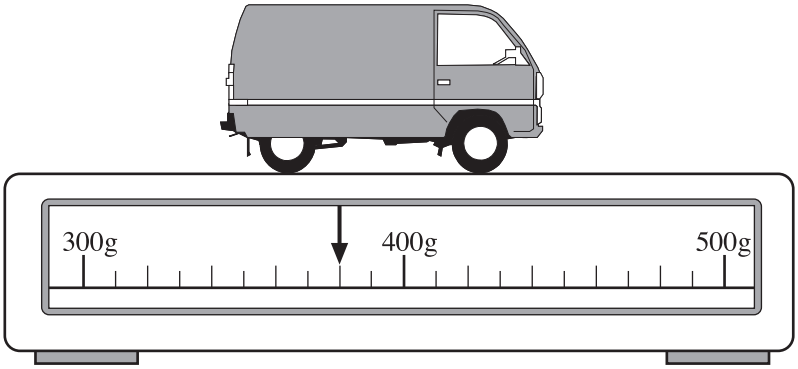
(b) The car is put on a different scale.
Draw the pointer to show the car's weight.

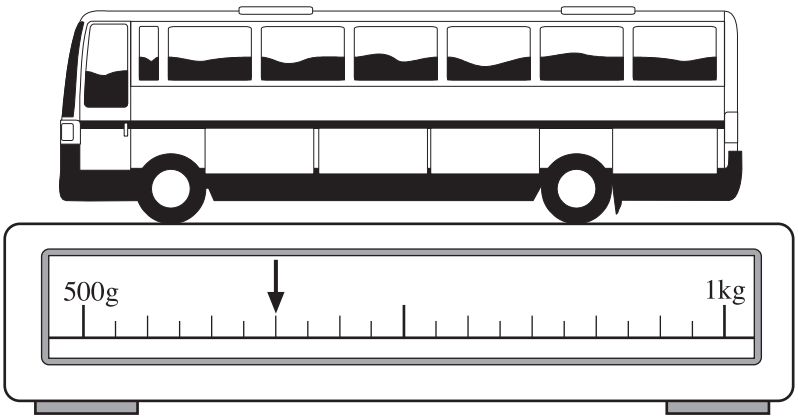


[1]

Examiner only

(c) How much heavier is the toy bus than the toy van?





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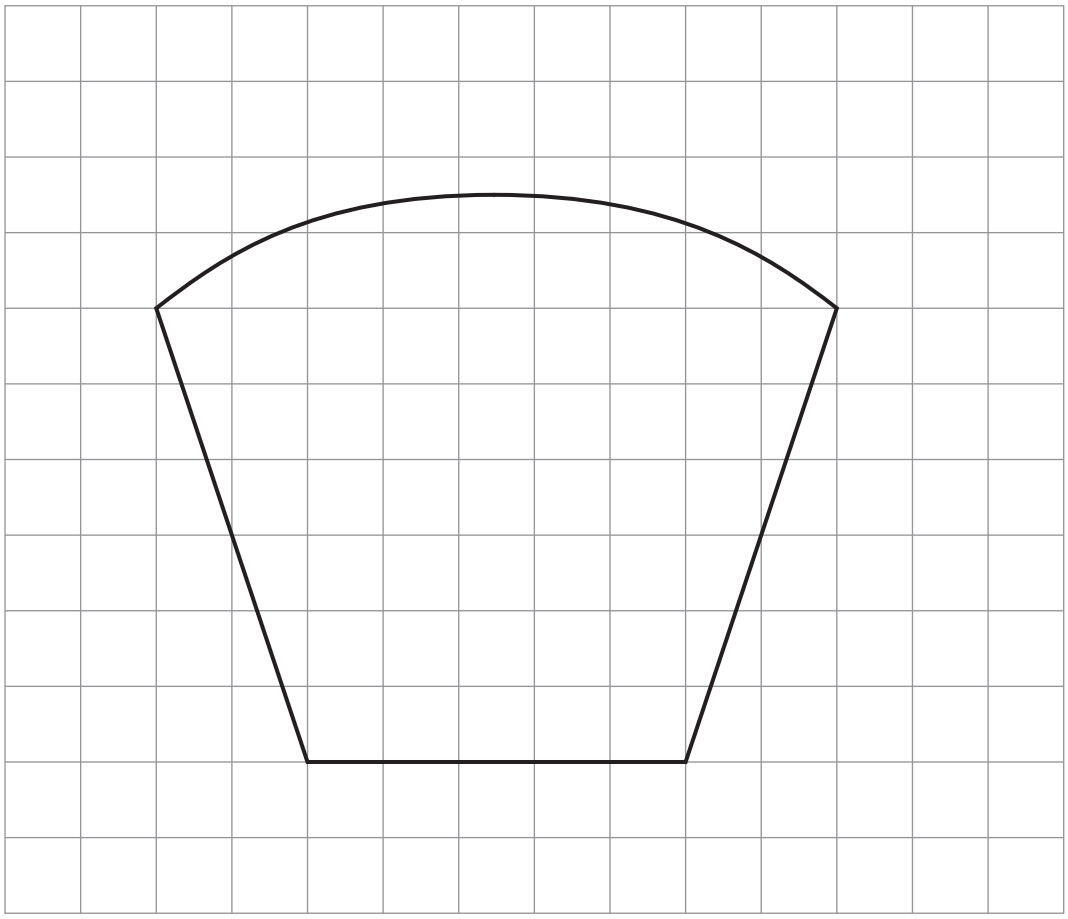
[3]

Examiner only

4. *(a)*



The above shape is drawn on a square grid.
By counting squares, estimate the area of the shape if each square represents an area of $10\,cm^2$.

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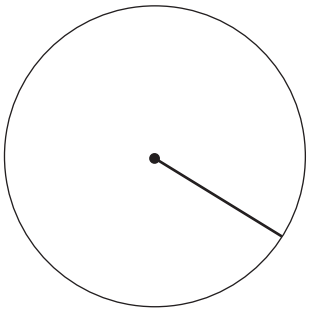
[3]

(b) Write down the special name of the straight line shown in **each** diagram below.

[2]



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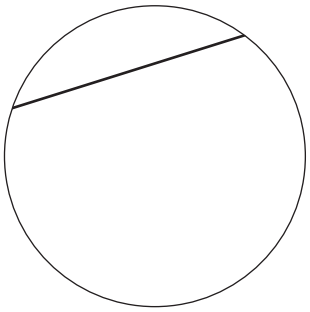

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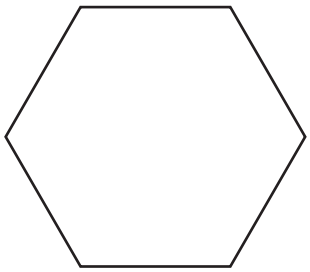
(c) Write down the name of **each** of the shapes shown below.

[3]



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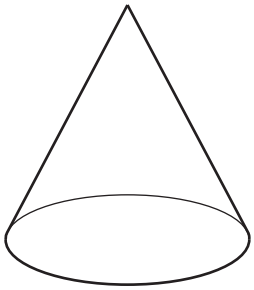

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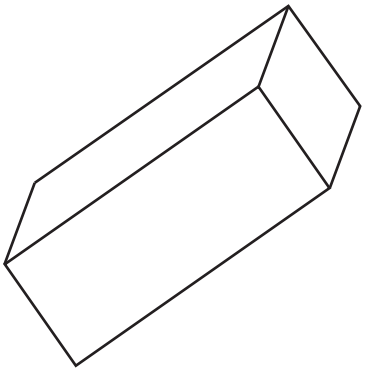

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Examiner only

5. The amount paid to repair a washing machine is given by the formula

Amount paid = £15.50 × Number of hours + £56

(a) Find the **Amount paid** when the **Number of hours** is 6.

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[2]

(b) Find the **Number of hours** when the **Amount paid** is £118.

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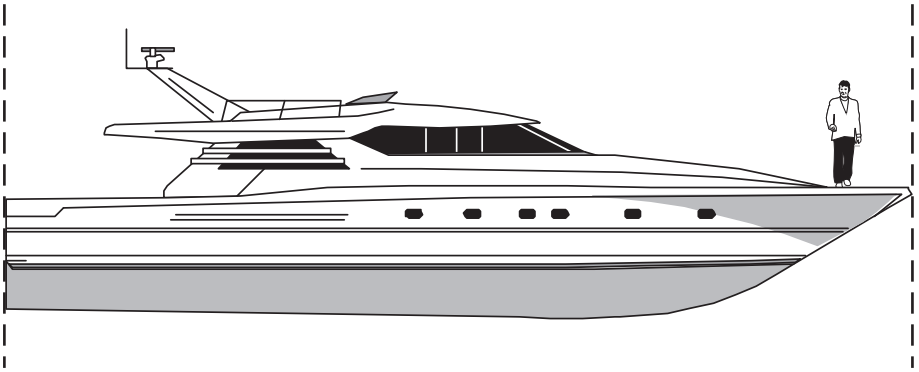
[2]

Examiner only

6. The picture shows a large boat with a man standing on the deck.



Showing all your working, estimate the length of the boat.

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[4]

Examiner only

7. The table below shows the basic hotel costs for 10-night holidays with certain arrival dates in August.

Arrival date	Price for each adult (£)	Price for each child (£)
August 6	546	265
August 16	558	270
August 26	485	254

Supplements	Sea view	£5
Price per person per night	Balcony	£3

Mr and Mrs Bickford book a 10-night holiday for themselves and their two children with an arrival date of August 26.
They decide to book a room with a sea view and a balcony.
Calculate the total amount that they have to pay the hotel.

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[5]

8. *(a)* (i) David is x years old.
Jane is 5 years younger than David.
Write down Jane's age.

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(ii) A car is r metres long.
A trailer of length 8 metres is attached to the car.
What is the overall length of the car and trailer?

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(iii) A ticket costs t pounds.
How much would 12 tickets cost?

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[3]

(b) Use the formula $F = 3P + 2R$ to find the value of F when $P = 9$ and $R = 11$.

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[2]

(c) Solve **each** of the following equations.

(i) $x - 4 = 7$

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(ii) $\frac{y}{6} = 12$

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[2]

Examiner only

9. In a quiz the number of points scored by each of 8 teams was as follows:

84 61 56 72 52 36 19 28

(a) Find the mean number of points scored.

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[3]

(b) Find the range of the number of points scored.

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[1]

(c) Find the median of the number of points scored.

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[2]

Examiner only

10. A rectangle has one side of length 12 cm.
The area of the rectangle is 60 cm^2.

12 cm

Diagram not drawn to scale

Find the perimeter of the rectangle.

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[4]

Examiner only

11. *(a)* Bob added three odd numbers and got an answer of 50.
Explain why his answer is wrong.

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[1]

(b) If you know what $\frac{1}{4}$ of a number is, explain how you can find the value of the number.

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[1]

(c) Explain which of $\frac{3}{10}$ or $\frac{2}{5}$ is the larger.

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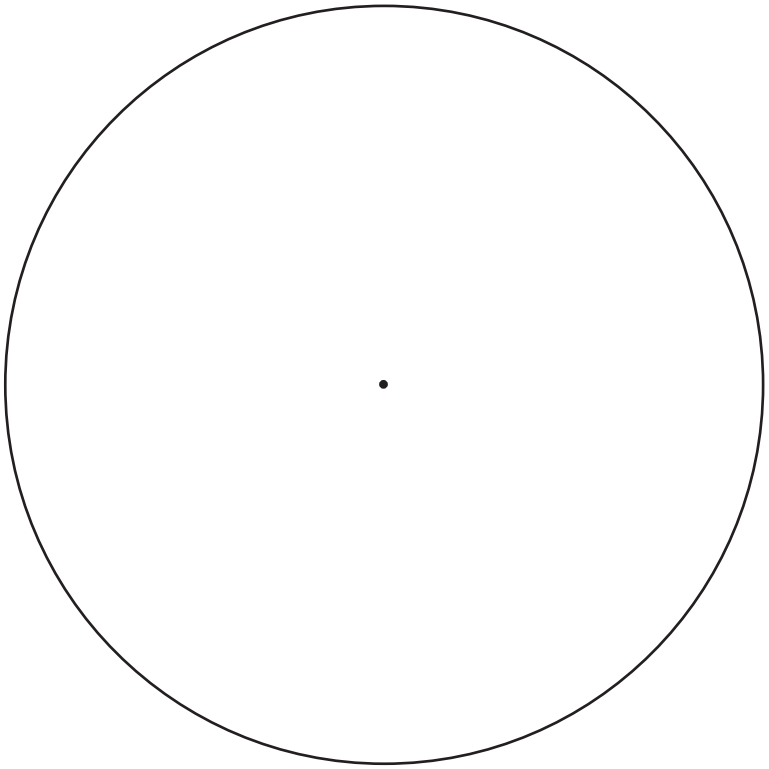
[1]

Examiner only

12. A sample of 240 pupils were asked what they intended to do next year.
The table shows the results.

Intention	Number of pupils
School	96
College	64
Job	52
Undecided	28

Draw a pie chart to illustrate this data. You should show how you calculate the angles of your pie chart.



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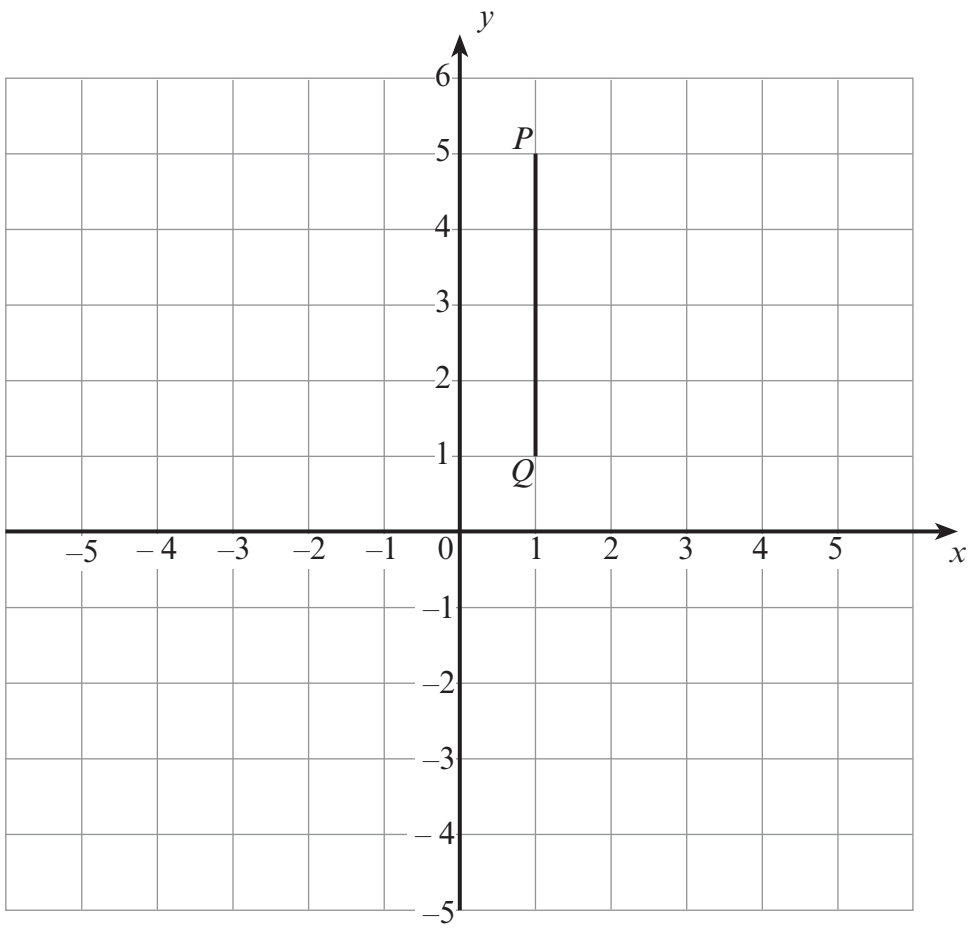
[4]

Examiner only

13. The line PQ is **one of the two equal sides** of an isosceles right-angled triangle PQR.

Find the **four** possible positions for the point R and write down their coordinates.



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[4]

Examiner only

14. A red bag contains three discs numbered 2, 4, 6 respectively. A blue bag contains four discs numbered 1, 3, 5, 7 respectively.

In a game, a player chooses a disc from each bag and adds the two numbers showing on the discs to get the score for the game.

For example, if the number on the disc from the red bag is 4 and the number on the disc from the blue bag is 5, the player works out 4 + 5 = 9 and the player scores 9.

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

Blue bag	Red bag: 2	4	6
7	9	11	.....
5	.....	.....	11
3	.....	.....	9
1	3	5	7

[2]

(b) A player plays the game once. What is the probability of the player scoring 7?

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[2]

Examiner only

15. Gary needs at least £1200 in euros (€) to go on a trip to Europe.
When he goes to the bank he finds that the lowest euro note the bank will sell him is the 10 euro note.
The exchange rate is £1 = €1.16.

What is the least number of euros that Gary must buy to ensure he has at least £1200 worth and how much did he pay for them?

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[5]

Examiner only

16. *(a)* Find the size of each of the angles marked *x, y* and *z* in the diagram.

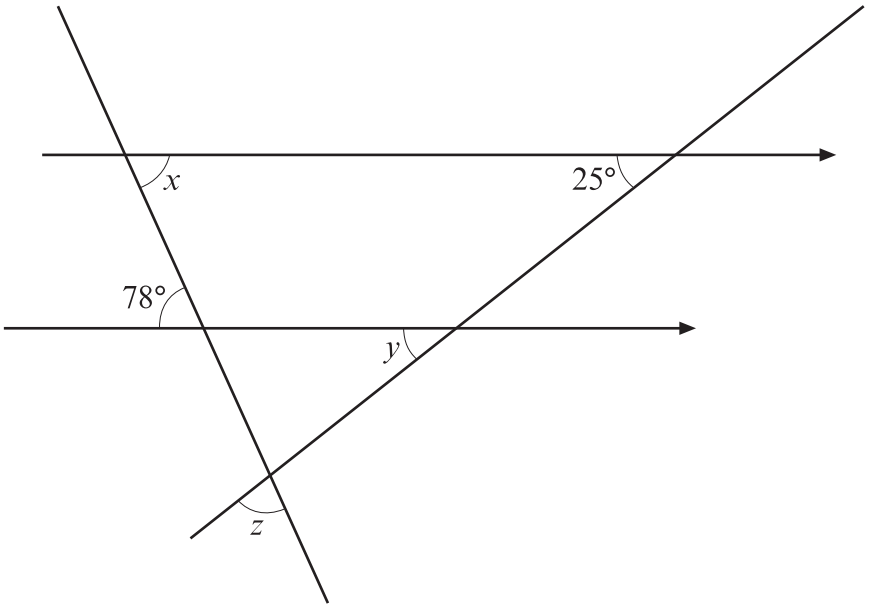

Diagram not drawn to scale

$x =$ ..... °

$y =$ ..... °

$z =$ ..... ° [3]

(b) The diagram shows a regular 5 sided polygon.

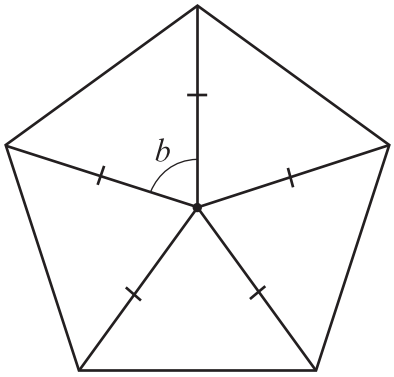

Diagram not drawn to scale

Calculate the size of the angle marked *b* in the diagram.

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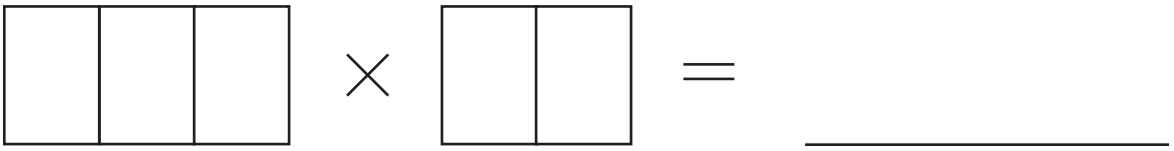
[2]

Examiner only

17. Here are five cards.

Place the cards in the boxes to make the largest result for the product of a three digit number and a two digit number.



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[3]

18. *(a)* Solve $6x - 8 = 4x + 20$.

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[3]

(b) Factorise $12y + 36$.

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[2]

Examiner only

19. In 2007, the cost of heating Mr Oak's house was £762.50.
At the start of 2008, Mr Oak spent £300 on improving the insulation of his house.
Mr Oak found that his heating bill in 2008 was 20% less than in 2007, and that his heating bill for 2009 was 20% less than in 2008.

(a) Find the cost of Mr Oak's heating bill for 2009.

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[4]

(b) Was it worth Mr Oak spending £300 on improving the insulation in his house?
You must give a reason for your answer.

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[2]

Examiner only

20.

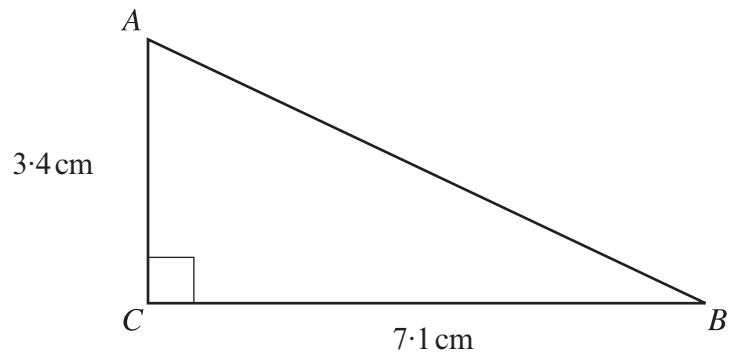

Diagram not drawn to scale

Calculate the length of AB.

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[3]

21. *(a)* Solve the inequality $6n < 2n + 11$.

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[2]

(b) Write down the largest integer value of n that satisfies the inequality.

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[1]