Half paper N4

Paper 1 style · Non-calculator · Foundation

36 marks
about 35–40 minutes

Name	Date	Score / 36

Answer ALL questions. Write your answers in the spaces provided. You must write down all the stages in your working. You must **not** use a calculator. Diagrams are **NOT** accurately drawn unless it says so.

Help on the longer questions

Underlined words tell you what the question wants.

Remember reminds you of a fact you need.

1 **Write** the following numbers in order of size.
Start with the smallest number.

0.7 0.07 0.77 0.707 0.17

.....

(1)

(Total for Question 1 is 1 mark)

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2 **Write** 1.2 as a percentage.

..... %

(1)

(Total for Question 2 is 1 mark)

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3 Here is a list of numbers.

3 5 7 10 12 21 28

From the list, write down a factor of 28

.....

(1)

(Total for Question 3 is 1 mark)

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4 **Write** 15 501 **to the nearest 1000**

.....

(1)

(Total for Question 4 is 1 mark)

Turn over ►

5

Remember BIDMAS: Brackets, Indices, Divide and Multiply, then Add and Subtract.

(a) **Work out** $20 - 3 \times 4$

.....

(1)

(b) **Work out** $4^2 + 3$

.....

(1)

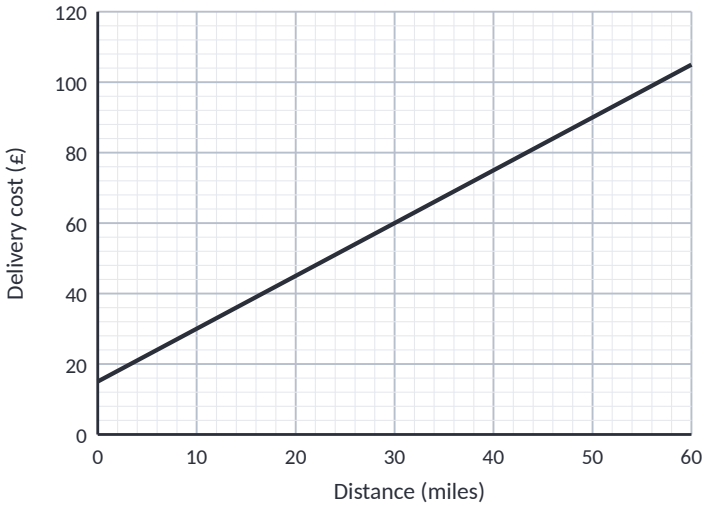
(c) **Write** brackets ( ) in this statement to make it correct.

$$2 + 3 \times 5 = 25$$

(1)

(Total for Question 5 is 3 marks)

6 Amir uses his van to deliver parcels.
You can use this graph to find the delivery cost for different distances.



For each delivery, there is a fixed charge plus a charge for the distance.

> **Remember** Go across from one axis to the line, then down (or across) to read the other value. For a big value, use a smaller one and multiply.

(a) How much is the fixed charge?

£ .....

(1)

(b) Amir makes two deliveries.
The distance of one delivery is 30 miles more than the distance of the other delivery.
Work out the difference between the two delivery costs.

£ .....

(2)

(Total for Question 6 is 3 marks)

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7 Amy, Ben and Cal each played a game.
Amy's score was three times Ben's score.
Cal's score was half of Amy's score.
Write down the ratio of Amy's score to Ben's score to Cal's score.

.....

(2)

(Total for Question 7 is 2 marks)

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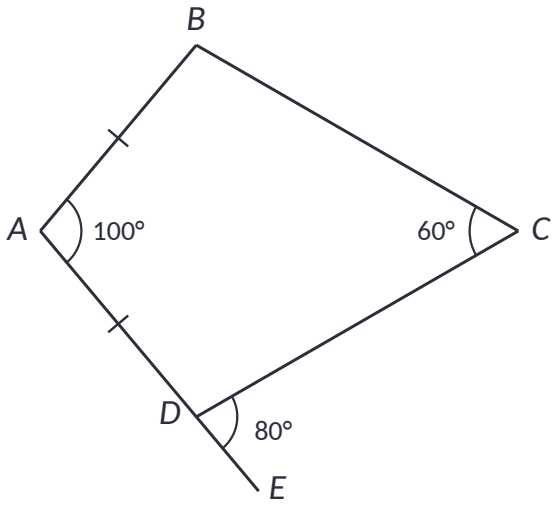
8 The diagram shows a quadrilateral *ABCD*.
ADE is a straight line.



AB = *AD*

Show that *ABCD* is a kite.

Give a reason for each stage of your working.

> **Remember** Straight line = 180°. Around a point = 360°. Triangle = 180°. Quadrilateral = 360°. Isosceles: two equal base angles. Write the reason for each angle.

(4)

(Total for Question 8 is 4 marks)

9 Ella is going to use these instructions to make a fruit drink.

Mix 4 parts of apple juice with 3 parts of water

Ella thinks that she has 400 ml of apple juice and 240 ml of water.

Remember Add the ratio parts to find the total number of parts. One part = amount ÷ total parts. Then multiply.

(a) If Ella is correct, what is the greatest amount of fruit drink she can make?

..... ml

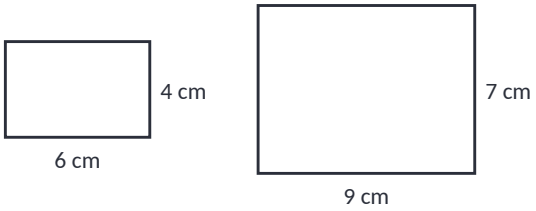
(3)

(b) Ella has 240 ml of water but she only has 360 ml of apple juice.
Does this affect the greatest amount of fruit drink she can make?
Give a reason for your answer.

(1)

(Total for Question 9 is 4 marks)

10 Here are two rectangles.



Tom says,

"The two rectangles are similar because 6 + 3 = 9 and 4 + 3 = 7"

Is Tom correct?
Explain your answer.

(1)

(Total for Question 10 is 1 mark)

11 90 people are asked if they like tea.

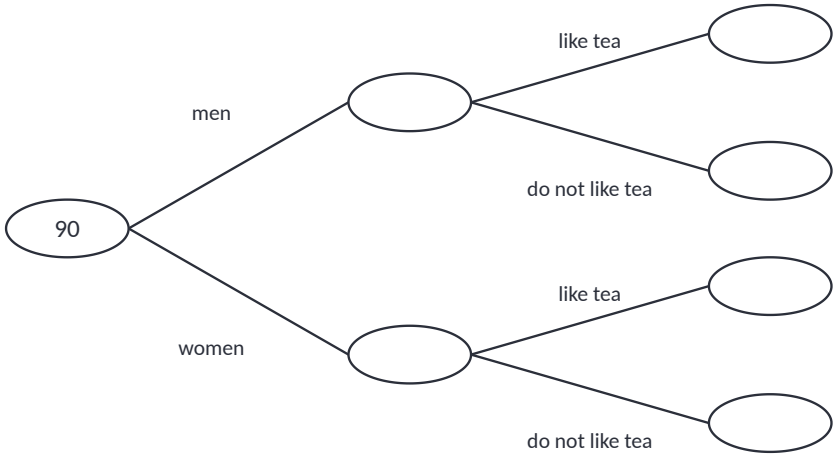
50 of these people are women.

64 of the 90 people like tea.

9 of the men do **not** like tea.

> **Remember** Each pair of branches adds up to the number before it. Fill in the numbers you are given first.

(a) Use this information to complete the frequency tree.



(3)

(b) One of the people who like tea is chosen at random.

Find the probability that this person is a woman.

.....

(2)

(Total for Question 11 is 5 marks)

12 Shop A and Shop B sell boxes of the same type of cereal.
Each shop has a special offer.

Shop A	Shop B
500 g 25% off the normal price of £4	500 g plus 20% extra £4

Which box of cereal is the better value for money?
You must show your working.

> **Remember** Find the cost of the same amount for each one (e.g. per 100 g or per item), then compare. Write a conclusion.

(4)

(Total for Question 12 is 4 marks)

13 **Work out** the value of $\frac{2^6 \times 2^{-1}}{2^2}$

.....

(2)

(Total for Question 13 is 2 marks)

14 $v^2 = u^2 + 2as$

$u = 5 \quad a = 4 \quad s = 3$

> **Remember** Do the same to both sides to get the letter on its own. Undo in reverse order.

(a) **Work out** a value of v.

.....

(2)

(b) **Make *a* the subject** of $v^2 = u^2 + 2as$

.....

(2)

(Total for Question 14 is 4 marks)

TOTAL FOR PAPER IS 36 MARKS

N4 mark scheme

Q		Answer	Mark	Notes
1		0.07, 0.17, 0.7, 0.707, 0.77	B1	
2		120	B1	
3		7 or 28	B1	
4		16 000	B1	
5	(a)	8	B1	
	(b)	19	B1	
	(c)	(2 + 3) × 5 = 25	B1	
6	(a)	15	B1	
	(b)	45	M1 A1	M1 for reading two costs 30 miles apart or £1.50 per mile A1 cao
7		6 : 2 : 3	M1 A1	M1 for two parts in the correct ratio A1 cao
8		Angle *ADC* = 100°, angle *ABC* = 100°; angle *ABD* = angle *ADB* = 40°, so angle *CBD* = angle *CDB* = 60° and *CB* = *CD*	M1 M1 M1 C1	M1 angle *ADC* = 180 − 80 = 100 (angles on a straight line) M1 angle *ABC* = 360 − 100 − 60 − 100 = 100 (angles in a quadrilateral) M1 angles *ABD* = *ADB* = 40 (isosceles triangle) C1 angles *CBD* = *CDB* = 60 so *CB* = *CD*: two pairs of equal adjacent sides
9	(a)	560	M1 M1 A1	M1 for 400 ÷ 4 (= 100) or 240 ÷ 3 (= 80) M1 for 80 × 7 A1 cao
	(b)	No: 360 ÷ 4 = 90 is still more than 80, so the water still limits it	C1	C1

Mark scheme continues ►

Q		Answer	Mark	Notes
10		**No: for similar shapes the lengths are multiplied by the same number; 9 ÷ 6 = 1.5 but 7 ÷ 4 = 1.75**	C1	C1
11	(a)	**men 40: like 31, not 9; women 50: like 33, not 17**	B3	B3 all correct (B2 for 4 or 5 correct, B1 for 2 or 3 correct)
	(b)	$\frac{33}{64}$	M1 A1	M1 ft for a denominator of 64 A1 oe
12		**Shop A (£3 for 500 g = 0.6p per gram, compared with £4 for 600 g = 0.67p per gram)**	M1 M1 M1 C1	M1 for 25% of £4 (= £1) so £3 M1 for 20% of 500 g (= 100 g) so 600 g M1 for comparable values C1 Shop A with correct figures
13		8	M1 A1	M1 for 2^3 or $2^5 \div 2^2$ A1 cao
14	(a)	7	M1 A1	M1 for 25 + 24 (= 49) A1 for 7 (or −7)
	(b)	$a = \frac{v^2 - u^2}{2s}$	M1 A1	M1 for $v^2 - u^2 = 2as$ A1 oe

B1 = mark for a correct answer · **M1** = method mark · **A1** = accurate answer after M1 · **C1** = reason · **cao** = correct answer only

Score ____ / 36

Write your score on the front page