Half paper N6

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 down** the value of the 4 in the number 3.45

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(1)

(Total for Question 1 is 1 mark)

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2 **Write** 12.95 **correct to 1 decimal place**.

.....

(1)

(Total for Question 2 is 1 mark)

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3 **Work out** 0.62×1000

.....

(1)

(Total for Question 3 is 1 mark)

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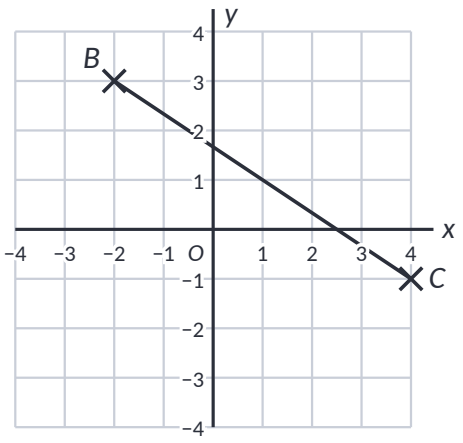
4 **Write** 2.5% as a decimal.

.....

(1)

(Total for Question 4 is 1 mark)

5



(a) **Plot** the point with coordinates (−3, −2)
Label this point *A*.

(1)

(b) **Write down** the coordinates of the midpoint of *BC*.

(1)

(Total for Question 5 is 2 marks)

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6 Leo is on holiday in the USA.
He has $250 to spend on clothes.
Leo buys

1 pair of jeans costing $70
3 shirts costing $30 each

He also wants to buy a coat costing $95
Has Leo got enough money to buy the coat?
You must show how you get your answer.

> **Remember** Write down each cost or amount as you work it out, then add them up. Write money with 2 decimal places (£4.50). 100p = £1.

(3)

(Total for Question 6 is 3 marks)

7

Remember Collect like terms: the same letter (and power) together. Watch the sign in front of each term.

(a) **Simplify** $3a \times 6b$

.....

(1)

(b) **Simplify** $4x + 3y + 2x - 5y$

.....

(2)

(Total for Question 7 is 3 marks)

8 **Work out** 26×15

.....

(2)

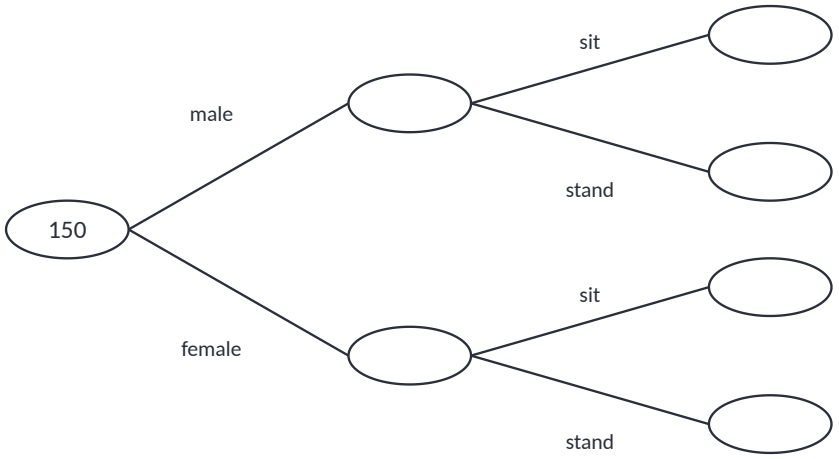
(Total for Question 8 is 2 marks)

9 150 people were at a concert.
Each person was asked if they wanted to stand or to sit to watch the concert.

80 of the people were female
34 of the males wanted to stand
45 of the people wanted to sit

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 150 people is chosen at random.
Write down the probability that this person is a male who wanted to stand.

.....

(1)

(Total for Question 9 is 4 marks)

10 $x + 2 = 7$

Work out the value of $3x^2$

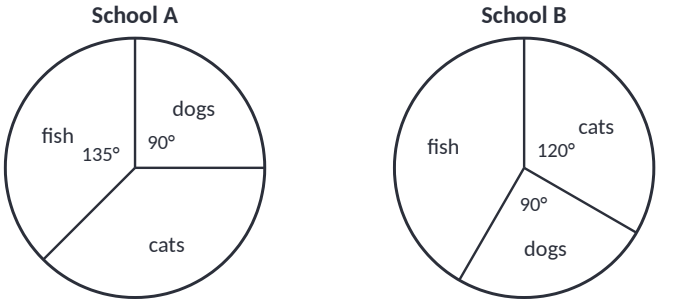
Remember Put the numbers in place of the letters, using brackets for negatives. Then follow BIDMAS.

.....

(3)

(Total for Question 10 is 3 marks)

11 The pie charts show information about the favourite pet of each student at school **A** and of each student at school **B**.



There are 400 students at school A.

There are 432 students at school B.

Ali says,

"More students at school **B** than at school **A** have fish as their favourite pet."

Is Ali correct?

You must show how you get your answer.

> **Remember** Angle for each = frequency × (360 ÷ total). The angles must add up to 360°.

(4)

(Total for Question 11 is 4 marks)

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12 p is an integer.

The inequality is $-2 \leqslant p < 3$

Write down all the possible values of p.

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(2)

(Total for Question 12 is 2 marks)

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13 **Find** the lowest common multiple (LCM) of 90 and 84

> **Remember** Use a factor tree. HCF = the primes both numbers share. LCM = the smallest number in both times tables.

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(3)

(Total for Question 13 is 3 marks)

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14 **Work out** $2\frac{1}{4} \times 1\frac{2}{3}$

Give your answer **as a mixed number**.

> **Remember** Add/subtract: make the denominators the same. Multiply: top × top, bottom × bottom. Divide: flip the second fraction and multiply. Change mixed numbers to top-heavy first.

.....

(3)

(Total for Question 14 is 3 marks)

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15 3 red boxes have a mean weight of 4 kg.
6 blue boxes have a mean weight of 8 kg.
1 green box has a weight of 5 kg.
Sam says,

"The mean weight of the 10 boxes is more than 7 kg."

Is Sam correct?

You must show how you get your answer.

> **Remember** Mean = total ÷ how many. Median = middle value when in order. Mode = most common. Range = biggest − smallest.

(3)

(Total for Question 15 is 3 marks)

TOTAL FOR PAPER IS 36 MARKS

N6 mark scheme

Q		Answer	Mark	Notes
1		$\frac{4}{10}$ or 0.4 or 4 tenths	B1	
2		13.0	B1	
3		620	B1	
4		0.025	B1	
5	(a)	Point at (−3, −2) labelled A	B1	
	(b)	(1, 1)	B1	
6		No: he has \$90 left, which is less than \$95	M1 M1 C1	M1 for 70 + 3 × 30 (= 160) M1 for 250 − 160 (= 90) C1 No with correct figures
7	(a)	$18ab$	B1	
	(b)	$6x - 2y$	B2	B2 (B1 for one term correct)
8		390	M1 A1	M1 for a complete method A1 cao
9	(a)	male 70: sit 36, stand 34; female 80: sit 9, stand 71	B3	B3 all correct (B2 for 4 or 5 correct, B1 for 2 or 3 correct)
	(b)	$\frac{34}{150}$	B1	B1 ft
10		75	M1 M1 A1	M1 for $x = 5$ M1 for 3×5^2 A1 cao
11		Yes: school A 150 students, school B 180 students	M1 M1 M1 C1	M1 for $\frac{135}{360} \times 400$ (= 150) M1 for 150° for fish at school B M1 for $\frac{150}{360} \times 432$ (= 180) C1 Yes with correct figures
12		−2, −1, 0, 1, 2	B2	B2 (B1 for one error)

Mark scheme continues ►

Q	Answer	Mark	Notes
13	1260	M1 M1 A1	M1 for prime factors of one number ($2 \times 3^2 \times 5$ or $2^2 \times 3 \times 7$) M1 for both A1 cao
14	$3\frac{3}{4}$	M1 M1 A1	M1 for $\frac{9}{4} \times \frac{5}{3}$ M1 for $\frac{45}{12}$ A1 cao
15	No: 65 ÷ 10 = 6.5 kg	M1 M1 C1	M1 for 3×4 (= 12) or 6×8 (= 48) M1 for (12 + 48 + 5) ÷ 10 C1 No with 6.5

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

Score ____ / 36