# Half paper C5

Paper 2 style · 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 may 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** $\frac{9}{25}$ as a percentage.

.....%

**(1)**

**(Total for Question 1 is 1 mark)**

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**2** **Write** 4.951 **correct to 1 decimal place**.

.....

**(1)**

**(Total for Question 2 is 1 mark)**

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**3** **Work out** the value of $4^3$

.....

**(1)**

**(Total for Question 3 is 1 mark)**

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**4** **Write down** a 5 digit number that has 3 as its hundreds digit.
You can only use the digit 3 once.

.....

**(1)**

**(Total for Question 4 is 1 mark)**

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**Turn over ►**

**5**

> **Remember** 1 kg = 1000 g. 1 litre = 1000 ml. 1 m = 100 cm. 1 cm = 10 mm. 1 km = 1000 m.

**(a)** **Change** 2.7 m to cm.

..... cm

**(1)**

**(b)** **Change** 450 millilitres to litres.

..... litres

**(1)**

**(c)** **Change** 3.2 kilograms to grams.

..... grams

**(1)**

**(Total for Question 5 is 3 marks)**

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**6** Ella drives 228 miles in 4 hours.

> **Remember** Speed = distance ÷ time. Distance = speed × time. Time = distance ÷ speed. Change minutes to hours: ÷ 60 (30 min = 0.5 h).

**(a)** What is her average speed?

..... mph

**(2)**

**(b)** Tom drives at an average speed of 64 mph for 3 hours.
How many miles does Tom drive?

..... miles

**(2)**

**(Total for Question 6 is 4 marks)**

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**7**

**Remember** Do the same to both sides. Undo + with −, undo × with ÷. Expand brackets first.

**(a)** **Solve** $x + x + x + x = 52$

$x =$ .....

**(1)**

**(b)** **Solve** $\frac{y}{5} = 7$

$y =$ .....

**(1)**

**(c)** **Solve** $3f - 4 = 20$

$f =$ .....

**(1)**

**(Total for Question 7 is 3 marks)**

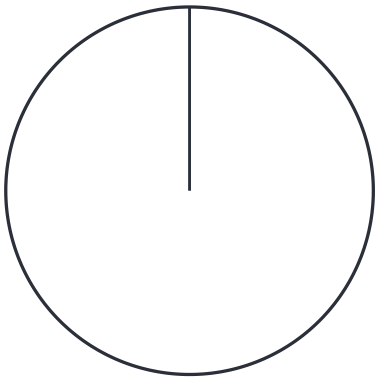
**8**

✎ **Complete this question on paper (printed at actual size)**

A group of football fans were asked what their half time snack was.
The table gives information about their answers.

| Snack | Number of fans |
|---|---|
| crisps | 14 |
| sandwich | 18 |
| fruit | 8 |

**Draw** an accurate pie chart for this information.



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

**(3)**

**(Total for Question 8 is 3 marks)**

**9** A school has a raffle to raise money for charity.
There is 1 prize to be won in the raffle.
Kim buys 15 raffle tickets.
A total of 400 raffle tickets are sold.
**Find** the probability that Kim does **not** win the prize.

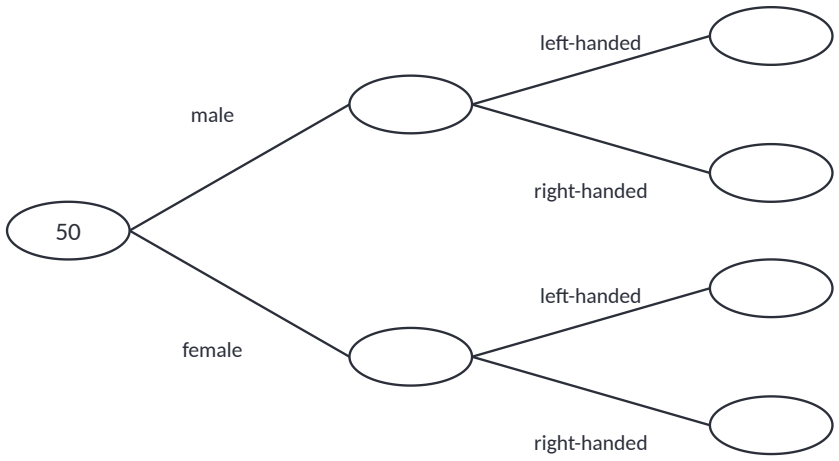
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**(2)**

**(Total for Question 9 is 2 marks)**

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**10** Each worker in an office is either left-handed or right-handed.
26 of the 50 workers are female.
18 of the 38 right-handed workers are male.
**Complete** the frequency tree for this information.




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

**(3)**

**(Total for Question 10 is 3 marks)**

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**11** Kai buys some bags of sweets.

There are 15 sweets or 16 sweets or 17 sweets or 18 sweets in each bag.

The table gives some information about the number of sweets in each bag.

| Number of sweets | Frequency |
|---|---|
| 15 | ..... |
| 16 | 6 |
| 17 | 4 |
| 18 | 2 |

The total number of sweets is 230

**Complete** the table.

> **Remember** Mean from a table = total of (value × frequency) ÷ total frequency. For groups, use the midpoint of each group.

**(3)**

**(Total for Question 11 is 3 marks)**

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**12** Here is the list of ingredients for making 24 cakes.

| **Ingredients for 24 cakes** |
|---|
| 200 g butter |
| 150 g sugar |
| 250 g flour |
| 100 g raisins |

Ana has the following ingredients.

700 g butter
600 g sugar
1000 g flour
300 g raisins

What is the greatest number of cakes Ana can make?

**You must show your working**.

> **Remember** Find the value for 1 first (÷), then multiply. Inverse proportion: more workers → less time (× then ÷).

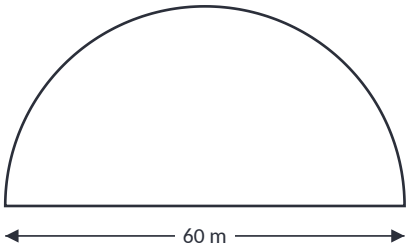
.....

**(3)**

**(Total for Question 12 is 3 marks)**

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**13** A farmer has a field in the shape of a semicircle of diameter 60 m.




The farmer asks Sam to build a fence around the edge of the field.
Sam tells him how much it will cost.

| Total cost = £24.50 per metre of fence plus £150 for each day's work |
|---|

Sam takes two days to build the fence.
**Work out** the total cost.

> **Remember** Circumference = π × diameter. Area = π × radius². Radius = half the diameter.

£ .....

**(5)**

**(Total for Question 13 is 5 marks)**

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**14**

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

**(a)** **Find** the lowest common multiple (LCM) of 36 and 60

.....

**(2)**

**(b)** $A = 2^2 \times 3^2 \times 5$ $B = 2^3 \times 3 \times 7$
**Write down** the highest common factor (HCF) of $A$ and $B$.

.....

**(1)**

**(Total for Question 14 is 3 marks)**

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**TOTAL FOR PAPER IS 36 MARKS**

# C5 mark scheme

| Q | | Answer | Mark | Notes |
|---|---|---|---|---|
| 1 | | 36 | B1 | |
| 2 | | 5.0 | B1 | |
| 3 | | 64 | B1 | |
| 4 | | e.g. 12 345 | B1 | |
| 5 | (a) | 270 | B1 | |
| | (b) | 0.45 | B1 | |
| | (c) | 3200 | B1 | |
| 6 | (a) | 57 | M1<br>A1 | M1 for 228 ÷ 4<br>A1 cao |
| | (b) | 192 | M1<br>A1 | M1 for 64 × 3<br>A1 cao |
| 7 | (a) | 13 | B1 | |
| | (b) | 35 | B1 | |
| | (c) | 8 | B1 | |
| 8 | | crisps 126°, sandwich 162°, fruit 72°, labelled | M1<br>A1<br>B1 | M1 for 360 ÷ 40 (= 9)<br>A1 for correct angles<br>B1 for a correct labelled pie chart |
| 9 | | $\frac{385}{400}$ | M1<br>A1 | M1 for 400 − 15 or $\frac{15}{400}$<br>A1 oe |
| 10 | | male 24: left 6, right 18; female 26: left 6, right 20 | B3 | B3 all correct (B2 for 4 or 5 correct, B1 for 2 or 3 correct) |
| 11 | | 2 | M1<br>M1<br>A1 | M1 for 6 × 16 + 4 × 17 + 2 × 18 (= 200)<br>M1 for (230 − 200) ÷ 15<br>A1 cao |



Mark scheme continues ►

| Q | | Answer | Mark | Notes |
|---|---|---|---|---|
| 12 | | 72 | M1<br>M1<br>A1 | M1 for dividing each amount by the recipe amount (3.5, 4, 4, 3)<br>M1 for the smallest (3) × 24<br>A1 cao |
| 13 | | 4079.07 | M1<br>M1<br>M1<br>M1<br>A1 | M1 for π × 60 ÷ 2 (= 94.24…)<br>M1 for adding 60 (= 154.24…)<br>M1 for × 24.50<br>M1 for + 2 × 150<br>A1 for 4079.07 (accept 4079 to 4080) |
| 14 | (a) | 180 | M1<br>A1 | M1 for listing multiples or prime factors<br>A1 cao |
| | (b) | 12 | B1 | |

**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**