For **Pearson Edexcel**
Level 1/Level 2 GCSE (9 – 1)

Mathematics

Paper 1 (Non-Calculator)

Foundation Tier

Churchill Paper 1A – Marking Guide

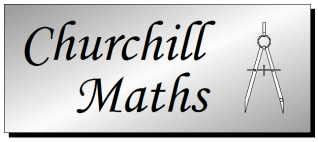
Method marks (M) are awarded for a correct method or partial method

Process marks (P) are awarded for a correct process as part of a problem solving question

Accuracy marks (A) are awarded for a correct answer, having used a correct method or process

(B) marks are unconditional accuracy marks (no method or process needed)

(C) marks are for communication



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Churchill Paper 1A Marking Guide – Edexcel Foundation Tier

1	0.025, 0.2, 0.205, 0.21		B1	Total 1
2	= 5 × 60 = 300		B1	Total 1
3	= 4.7 – 1.5 = 3.2		B1	Total 1
4	e.g. 60 km/h means So	60 km in 60 minutes 1 km in 1 minute 45 km in 45 minutes	M1 A1	Total 2
5	e.g. A hot dog with cheese costs £2.95 7 × £2.95 = 7 × £3 – 7 × 5p = £21 – 35p = £20.65 They can't afford 7 hot dogs with cheese but they can afford 6 A hot dog costs £2.80 7 × £2.80 = 7 × £3 – 7 × 20p = £21 – £1.40 = £19.60 They can afford 7 hot dogs By not having the cheese they can afford an extra hot dog Lennie is correct		P1 P1 P1 A1	Total 4
6	**(a)** 10		B1	
	(b) No. who chose Dog = 12 Total number = 12 + 10 + 5 + 3 + 4 = 34 $34 \div 3 = 11\frac{1}{3}$ 12 is more than $11\frac{1}{3}$ so Mona is correct		P1 P1 A1	Total 4

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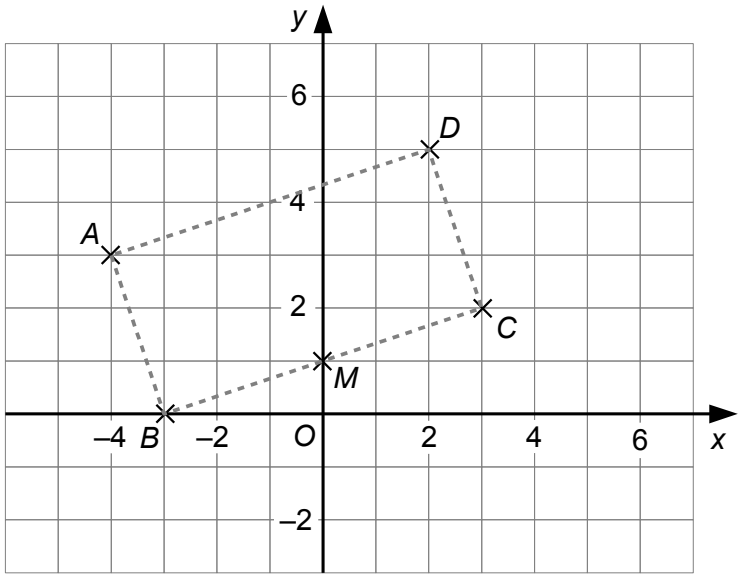
7 **(a)** (–4, 3) C1

(b)



B1

(c) *[e.g. rectangle completed on grid]* P1

(2, 5) A1 Total 4

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8 **(a)** $4p$ B1

(b) $7m + 3n$ B2 Total 3

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9 **(a)** $2.7 + \mathbf{0.85} = 3.55$ B1

(b) $\frac{2}{5} = \frac{4}{10}$

So $\frac{2}{5} - \frac{\mathbf{1}}{\mathbf{10}} = \frac{3}{10}$ B1

(c) $4 \times 3 = 12$

So $4 \times \mathbf{0.03} = 0.12$ B1 Total 3

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10 *AB* = *BD* so triangle *ABD* is isosceles
Hence, angle *BDA* = angle *BAD* = 34º M1
Angles in a triangle add up to 180º
So angle *ABD* = 180 – 34 – 34 = 112º M1
Angles on a straight line add up to 180º
So angle *CBD* = 180 – 112 = 68º
BD = C*D* so triangle *BCD* is isosceles
Hence, angle *BCD* = angle *CBD* = 68º
Angles in a triangle add up to 180º
So angle *a* = 180 – 68 – 68 = 44º M1 A1 Total 4

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11 $5y = 2y + 18$
$3y = 18$ M1
$y = 6$ A1 Total 2

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12 **(a)** $\begin{pmatrix} 3 \\ -1 \end{pmatrix}$ B1

(b) $4\mathbf{a} = \begin{pmatrix} 4 \\ 8 \end{pmatrix}$ M1

$4\mathbf{a} - \mathbf{b} = \begin{pmatrix} 4 \\ 8 \end{pmatrix} - \begin{pmatrix} 3 \\ -1 \end{pmatrix} = \begin{pmatrix} 1 \\ 9 \end{pmatrix}$ A1 Total 3

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13 **(a)** Jeremy marks 1 homework in 60 ÷ 12 = 5 minutes M1
Kira marks 1 homework in 120 ÷ 30 = 4 minutes
Liz marks 1 homework in 6 minutes
Therefore Kira is the quickest A1

(b) In 20 minutes Jeremy marks 4 homeworks
and Kira marks 5 homeworks
Together they mark 9 homeworks in 20 minutes P1
36 ÷ 9 = 4 so they take 4 × 20 = 80 minutes P1
4.30 pm + 80 minutes = 5.30 pm + 20 minutes = 5.50 pm A1
They finish marking at 5.50 pm Total 5

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14 **(a)** 1 chain costs 180 ÷ 20 = £9
1 bead costs 750 ÷ 500 = £1.50 P1
1 spacer costs 90 ÷ 100 = £0.90
1 heart charm costs 120 ÷ 30 = £4

Total = 9 + (8 × 1.50) + (4 × 0.90) + 4 P1
= 9 + 12 + 3.60 + 4
= £28.60 A1

(b) Profit on 1 bracelet = 39.90 – 28.60 = £11.30
Profit on 15 bracelets = 15 × 11.30 M1
= 10 × 11.30 + 5 × 11.30
= 113 + 56.50
= £169.50 A1 Total 5

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15 Area of cross-section of block = $\frac{1}{2}$ × 6 × 6 P1
= 18 cm^2
Area of cross-section of house = 5 × 18 = 90 cm^2
Volume of house = 90 × L = 990
L = 990 ÷ 90 P1
= 99 ÷ 9
= 11 A1
Length of block = 11 cm Total 3

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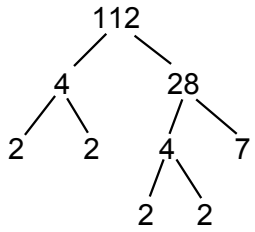
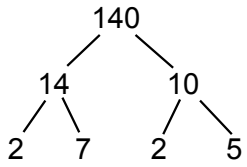
16 **(a)** e.g.



M1

$112 = 2^4 \times 7$ A1

(b) e.g.



$140 = 2^2 \times 5 \times 7$

HCF = $2^2 \times 7$ M1
= 28 A1 Total 4

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17 **(a)** e.g. She can not be sure of this because 10 is a very small number of trials C1

(b) No. of times red bead picked = 7 + 6 + 8 + 6 = 27 M1
No. of trials = 40
P(Faria picks a red bead) = $\frac{27}{40}$ A1 Total 3

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18 **(a)** B and D B1

(b) $p = 4$, $q = -5$ B2

(c) 2 B1

(d) $x = 1$ B1 Total 5

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19 500 – 100 = 400
400 ÷ 2 = 200
So there are 200 girls and 300 boys in the club P1
10% of 500 = 50
20% of 500 = 100, so there are 100 more child members
16% of 100 = 16
16% of 300 = 3 × 16 = 48, so there are 48 more boys P1
100 – 48 = 52, so there are 52 more girls
% increase in no. of girls = $\frac{52}{200} \times 100\%$ P1
$= \frac{52}{2}\% = 26\%$ A1 Total 4

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20 **(a)** $-2 < x \leq 7$ C1

(b) $2N < 30 \rightarrow N < 15$ M1

$3N > 40 \rightarrow N > 13\frac{1}{3}$

N is between $13\frac{1}{3}$ and 15

As N is a whole number, $N = 14$ A1 Total 3

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21 Area of rectangle = $10 \times 18 = 180$ cm^2 B1

Four quarter-circles have the same area as one whole circle

Radius = $10 \div 2 = 5$ cm

Area of circle = $\pi \times 5^2 = 25\pi$ cm^2 M1

Shaded area = $180 - 25\pi$ cm^2 A1 Total 3

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22 **(a)** 2 B1

(b) $= 25 + 64 + 81$ M1

$= 89 + 81$

$= 170$ A1

(c) $(3 \times 10^4) + (3 \times 10^3) = 30000 + 3000$ M1

$= 33000$

$= 3.3 \times 10000$

$= 3.3 \times 10^4$ A1 Total 5

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23 Let a baguette cost £b and a roll cost £r

So, $3b + 2r = 3$ (1)

$b + 4r = 2$ (2)

$2 \times (1)$ $6b + 4r = 6$ (3) P1

(3) – (2) $5b = 4$

$b = 4 \div 5 = 0.8$ P1

Sub (2) $0.8 + 4r = 2$

$4r = 1.2$

$r = 1.2 \div 4 = 0.3$

So a baguette costs £0.80 which is 80p and a roll costs 30p P1

Lee pays $2 \times 80p + 5 \times 30p$

$= £1.60 + £1.50 = £3.10$ A1 Total 4

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24 The angles in a triangle add up to 180º so

$4x + 3x + 20 + 5x - 8 = 180$ M1

$12x + 12 = 180$

$12x = 168$

$x = 14$ A1

$4x = 56$, $3x + 20 = 62$ and $5x - 8 = 62$ M1

As angle ABC = angle ACB the triangle is isosceles

The two sides opposite the equal angles are the same length

Hence, $AB = AC$ C1 Total 4

TOTAL FOR PAPER: 80 MARKS

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