GCSE Maths (Calculator) Practice Foundation Paper 2
AQA Specification

Types of marks:

M method marks
A accuracy marks
B unconditional accuracy marks (independent of M marks)

Abbreviations:

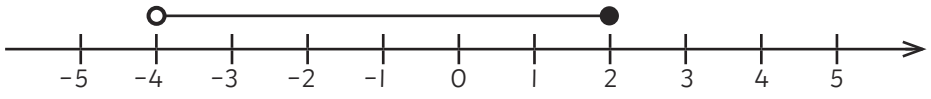
cao cannot accept other
ft follow through
oe or equivalent

No working:

If no working is shown, then correct answers score full marks and incorrect answers score no marks.

Other:

If the correct answer has **clearly** been obtained from incorrect working, award zero marks.

1.		**1 mark total**
	D	1 mark
2.		**1 mark total**
	B	1 mark
3.		**1 mark total**
	C	1 mark
4.		**1 mark total**
	B	1 mark
5.		**5 marks total**
a.	M1 Attempt to subtract 3 from all sides. M1 One of $-4 < x$ or $x \leq 2$ A1 for $-4 < x \leq 2$ oe	3 marks
b.	A2 Fully correct diagram ft. [A1 Correct range with one inequality circle correct ft.] 	2 marks

<table>
<tr><td>6.</td><td></td><td>4 marks total</td></tr>
<tr><td></td><td>M1 Converting £1.70 into $2.414 or converting $3.30 into £2.3239...

M1 Converting 2.5 litres into 0.65 US gallons or converting 1 US gallon into 3.846... litres

M1 Correct comparison of prices. For example, 1 litre is £1.70 ÷ 2.5 = 68p in UK and 1 litre is £2.3239... ÷ 3.846... = 60.4p in US

dA1 Answer of United States with justification</td><td>4 marks</td></tr>
<tr><td>7.</td><td></td><td>2 marks total</td></tr>
<tr><td>a.</td><td>A1 14 907.0247[933...]

Note: do not accept answers with fewer than 4 decimal places.</td><td>1 mark</td></tr>
<tr><td>b.</td><td>14 900 cao.</td><td>1 mark</td></tr>
<tr><td>8.</td><td></td><td>2 marks total</td></tr>
<tr><td></td><td>M1 3 × 4 or listing all combinations SB, SC, SF, SV, PB, PC, PF, PV, GB, GC, GF, GV

A1 12 cao.</td><td>2 marks</td></tr>
<tr><td>9.</td><td></td><td>2 marks total</td></tr>
<tr><td>a.</td><td>A1 9762</td><td>1 mark</td></tr>
<tr><td>b.</td><td>A1 2796</td><td>1 mark</td></tr>
<tr><td>10.</td><td></td><td>4 marks total</td></tr>
<tr><td>a.</td><td>A2 Fully correct sample space diagram (condone alternative order).

[A1 Sample space diagram with no more than one error (condone one missing row or column).]

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<tr><td></td><td>1</td><td>2</td><td>2</td><td>3</td><td>3</td><td>4</td></tr>
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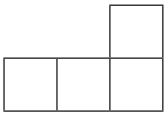
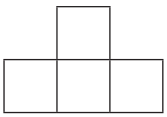
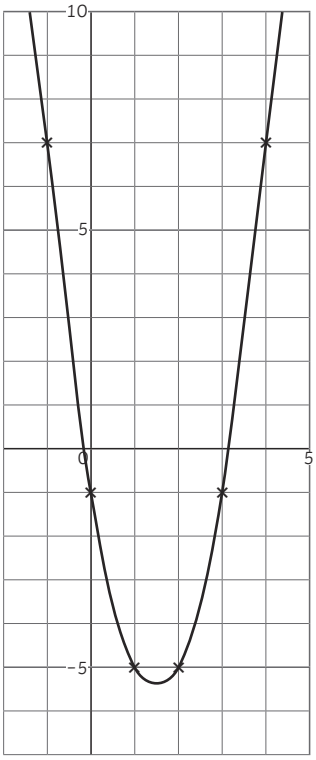
</td><td>2 marks</td></tr>
<tr><td>b.</td><td>M1 Denominator of 48 ft.

A1 $\frac{15}{48}$ oe.</td><td>2 marks</td></tr>
</table>

11.		**4 marks total**
a.	A1 (-3, 4)	1 mark
b.	A1 Coordinate plotted at (0, -5).	1 mark
c.	M1 (2, "y") or ("x", 3) A1 (2, 3)	2 marks
12.		**5 marks total**
a.	A1 −10	1 mark
b.	M1 Subtracting 2 before dividing by 3. A1 7	2 marks
c.	M1 Correct substitution of at least one value of x. A1 Correct substitution of two relevant values of x to show that Ben is incorrect, e.g. when $x = 3$, $y = 11$ and $x = 6$, $y = 20$	2 marks
13.		**3 marks total**
	Method one: M1 14m or 5m seen. M1 $\frac{14}{0.4}$ [= 35] and $\frac{5}{0.75}$ [= $6.\dot{6}$] dA1 $35 \times 6.\dot{6} = 233.\dot{3}$ **and** conclusion: No. **Method two:** M1 14m or 5m seen M1 14×5 [= $70m^2$] and $200 \times 0.4 \times 0.75$ [= $60m^2$] dA1 Conclusion: No	3 marks
14.		**3 marks total**
	M1 360 ÷ 20 [= 18] and attempt to multiply their "18" by at least one frequency. M1 Angles calculated as 54°, 90°, 72°, 126° and 18°. A1 Fully correct pie chart with labelled sectors. [Award A2 for fully correct, labelled pie chart but with no working out.]	3 marks

15.		**3 marks total**
	M1 3 × 5 and 7 × 2 or 10 × 2 and 3 × 3 or 5 × 10 and 7 × 3 A1 29 A1 cm^2	3 marks
16.		**2 marks total**
	A1 Correct plan view.  A1 Correct side elevation. 	2 marks
17.		**3 marks total**
	M1 $3x + 3p = y$ M1 $3x = y - 3p$ A1 $x = \frac{y - 3p}{3}$ oe. Do not accept $y - 3p \div 3$	3 marks
18.		**6 marks total**
a.	A2 7, -5, -1, 7 [A1 3 correct values.]	2 marks

b.	 A1 All coordinates plotted correctly. dA1 Coordinates joined with smooth curve. Note: this A1 can only be awarded if at least 4 points are plotted correctly.	2 marks
c.	A1 x = 0.5 to 0.9 inclusive. A1 x = 2.2 to 2.6 inclusive.	2 marks
19.		**3 marks total**
	M1 Correct bearing of R from P (± 3°). M1 Correct bearing of R from Q (± 3°). A1 for correct location of boat clearly marked.	3 marks
20.		**3 marks total**
	M1 Midpoints calculated as 21, 27, 35, 47.5, 63.5 and attempt to multiply their midpoints by the frequencies 4 × 21 + 5 × 27 + 8 × 35 + 9 × 47.5 + 4 × 63.5 [= 1180.5] M1 $\frac{"1180.5"}{30}$ ft. A1 39.35 years cao.	3 marks
21.		**3 marks total**
	M1 1950 × 1.03^3 [= 2130.82] or fully correct equivalent method to calculate compound interest. M1 2000 + (2000 × 0.025 × 3) [= 2150] or fully correct equivalent method to calculate simple interest. dA1 Bank Account B with justification.	3 marks

22. — **3 marks total**

M1 $\frac{800}{50} = 16$

A1 16 × 16 = 256 cao.

A1 Assumption: the same proportion of people will want cheese sandwiches as in the sample.

3 marks

23. — **4 marks total**

M1 Fully correct method to work out the height of the pyramid:

$\sqrt{8.5^2 - 3^2}$ [= 7.95...]

M1 $\frac{1}{3} \times 6^2$ × "their 7.95..." [= 95.43...]

M1 "their 95.43..." × 300

A1 28 630.8 g cao.

4 marks

24. — **3 marks total**

Equation	Graph
$y = 3x - 4$	B
$y = 2^x$	C
$y = x^3 - 2x$	E
$y = x^2 + 3x - 1$	A
$y = 3 - x$	D

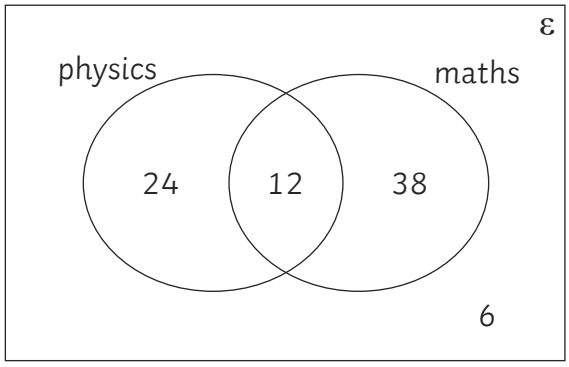
A3 All correctly matched.

A2 One error or omission.

A1 Two errors or omissions

3 marks

25. — **4 marks total**



M2 Fully correct Venn diagram.

[M1 No more than one error or omission.]

M1 Denominator of 50.

A1 $\frac{12}{50}$ oe.

4 marks

26. — **2 marks total**

M1 103% or 1.03 seen or fully correct method for calculating reverse percentages.

250 000 ÷ 1.03

A1 £242 718.45 cao.

2 marks

27.		**3 marks total**
	Method one: M2 for correctly listing multiples of ratios and moving three from Rupert to Alisha (M1 for one error) 5:7 → 8:4 10:14 → 13:11 15:21 → 18:18 20:28 → 23:25 25:35 → 28:32 which simplifies to 7:8 A1 Alisha had 25 and Rupert had 35 sweets. **Method two:** M1 $5x + 3$ or $7x - 3$ seen. M1 $\frac{8}{7}(5x + 3) = 7x - 3$ oe. and attempt to solve to get $x = 5$ A1 Alisha had 25 and Rupert had 35 sweets.	3 marks