

MATHEMATICS 2 <sup>nd</sup> SAMs 2017 Unit 1 (Non-calculator) Foundation Tier	Mark	MARK SCHEME Comments ( Page 1)
<p>1. (a) six million, three hundred and forty-two thousand</p> <p>(b) 53 006</p> <p>(c) 932</p> <p>(d) 56</p> <p>(e) 1, 3, 7, 21</p>	<p>B1</p> <p>B1</p> <p>B1</p> <p>B1</p> <p>B2</p> <p>6</p>	B1 for 3 or 4 correct factors and no more than 1 wrong factor
<p>2. (a) 10.3 (cm) or 103 (mm) Correct units</p> <p>(b) Circle drawn with radius 4 cm</p>	<p>B1</p> <p>B1</p> <p>B1</p> <p>3</p>	<p>± 2 mm</p> <p>± 2 mm</p>
<p>3. (a) 6 and 8 in either order</p> <p>(b) 9 and 7 in that order</p>	<p>B1</p> <p>B1</p> <p>2</p>	
<p>4. (a) kilometre</p> <p>(b) 6.6.lb</p>	<p>B1</p> <p>B1</p> <p>2</p>	
<p>5.</p> <p><math>B</math>                      <math>A</math></p> <p>(0)                      (0.6)</p>	<p>B1</p> <p>B1</p> <p>2</p>	<p>Allow 6/10 and 0 to represent A and B respectively.</p> <p>A should be between 0.5 and 0.7 exclusive.</p> <p>B should be at 0.</p>
<p>6. (a) Bethesda      6</p> <p>Caernarfon    10</p> <p>Llanberis        3</p> <p>Nefyn             4</p> <p>(b) Both axes suitably labelled.</p> <p>Four bars at correct heights.</p>	<p>B2</p> <p>B2</p> <p>B1</p> <p>5</p>	<p>B1 for two or three correct frequencies.</p> <p>If frequencies score 0, then B1 for all 4 correct tallies.</p> <p>B1 if one square implicitly represents 1 unit (with no scale given); or B1 for correct scale with no 'frequency' label on vertical axis.</p> <p>Bars can be in any order.</p> <p>FT 'their table of frequencies'.</p>
<p>7. (a) <math>\frac{3}{100} \times (\pounds) 800</math> (£) 24</p> <p>(b) <math>450 \div 5 \times 2</math> 180</p> <p>(c) <math>7h</math></p>	<p>M1</p> <p>A1</p> <p>M1</p> <p>A1</p> <p>B1</p> <p>5</p>	

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8. $3A = B$ $4A = 60$ (kg) (A = ) 15 (kg)  (B = ) 45 (kg) (C = ) 22.5 (kg)  Organisation and communication Accuracy of writing	B1 M1 A1  B1 B1  OC1 W1  7	Seen or implied
9. (a) $x + 58 + 90 = 180$ OR $x = 90 - 58$ or equivalent. (x = ) 32 (°)  (b) $(\hat{A}CB =) \frac{180 - 34}{2}$ (=) 73 (°) $(\hat{A}CD =) 107(°)$	M1  A1  M1  A1 B1  5	FT 180 – ‘their 73’ or 34 + ‘their 73’.
10. (a)           20% (b)            3-24 (c) $\frac{1}{2}$	B1 B1 B1  3	
11. Attempt at a sample space or equivalent. H, even OR H2, H4 and H6 identified. (Probability =) 3/12 or equivalent. Statement that Sian is not correct and / or 3/12 $\neq$ 1/2	S1 B1 B1 B1  4	<i>Alternative method.</i> $P(H) = 1/2$ OR $P(Ev) = 1/2$ B1 Use of $P(H) \times P(Ev)$ FT                    S1 Sight of $1/4$ B1 Statement that Sian is not correct and / or $1/4 \neq 1/2$ B1
12. (a) Sketch of a rectangle with perimeter = 16m e.g. 6m by 2m, 7m by 1m, .....  (b) Sight of $5 \times 3$ OR $10 \times 6$ 15(m <sup>2</sup> ) AND 60(m <sup>2</sup> ) AND ‘No’.	B2  B1 B1  4	Allow giving two adjacent sides only. B1 if units of length not shown. B0 for sides of 5m and 3m. Accept a square of 4m by 4m.  Allow all marks if they use their rectangle from (a). Accept an argument that $2 \times$ length and $2 \times$ width will lead to $4 \times$ area ( $2l \times 2w = 4lw = 4A$ )
13. (a)           (x =) 32  (b)           (x =) $\frac{1}{2}$ or equivalent (e.g. 7/14)  (c) $9x - 2x = 39 - 4$ $7x = 35$ $x = 5$	B1  B1  B1 B1 B1  5	Mark final answer (e.g. $x = 7/14 = 2$ is B0)  FT until 2 <sup>nd</sup> error.

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14. (a) $x = 3$ AND $y = 9$  (b) (i) Sight of $11 - 4$ AND $35/5$ AND numbers written in order with 7 in the middle AND 7 for each value  (ii) FALSE TRUE TRUE TRUE	B2  B3  B2  7	B1 if reversed. If no marks gained allow B1 for $x + y = 12$ or for $y - x = 6$ .  B2 for $11 - 4$ OR $35/5$ OR numbers in order seen AND 7 for each value B1 for unsupported answer of 7 for each value.  All four correct. B1 for 3 correct.
15. (Area of $ABCD = \frac{(4 + 6) \times 3}{2} = 15(\text{cm}^2)$ (Area of $ADE = \frac{4 \times AE}{2}$ $\frac{4 \times AE}{2} = 15$ $AE = 7.5(\text{cm})$	M1 A1 B1  M1 A1 5	FT 'their derived 15'.