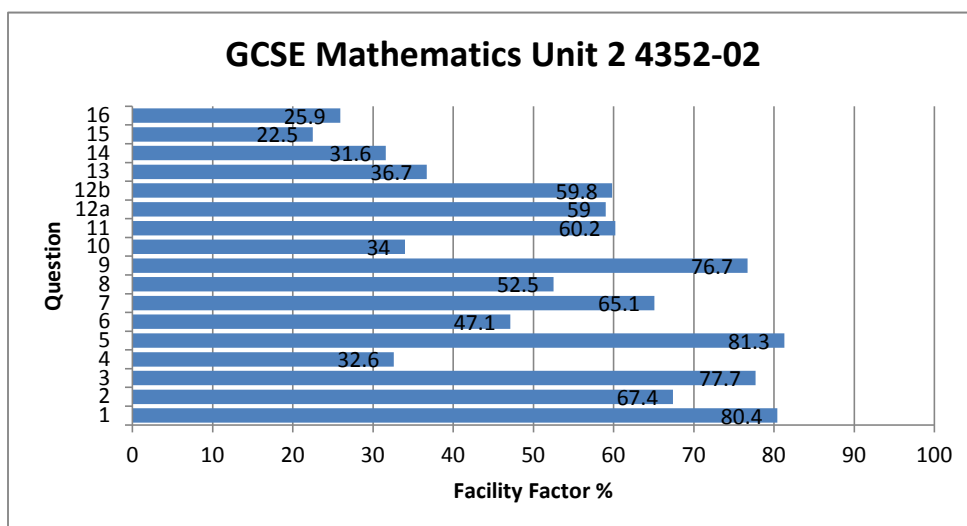


GCSE Mathematics Unit 2 4352-02

All Candidates' performance across questions

Question Title	N	Mean	S D	Max Mark	FF	Attempt %
1	1047	1.6	0.7	2	80.4	99.6
2	1050	5.4	1.8	8	67.4	99.9
3	1049	1.6	0.7	2	77.7	99.8
4	1014	1.6	2.1	5	32.6	96.5
5	1009	2.4	0.9	3	81.3	96
6	1028	0.9	0.9	2	47.1	97.8
7	1025	2.6	1.6	4	65.1	97.5
8	1046	3.1	2	6	52.5	99.5
9	1037	3.1	1.2	4	76.7	98.7
10	1036	1	1.1	3	34	98.6
11	1022	2.4	1.5	4	60.2	97.2
12a	1039	1.2	0.8	2	59	98.9
12b	1017	1.8	1.1	3	59.8	96.8
13	1025	1.5	1.3	4	36.7	97.5
14	1039	1.9	1.6	6	31.6	98.9
15	1026	1.1	1.5	5	22.5	97.6
16	939	0.5	0.7	2	25.9	89.3



12. (a) Expand and simplify $(c + 3)(2c - 5)$.

[2]

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.....



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[2]

$$2 \times c + c \times -5 + 3 \times 2c + 3 \times -5$$

$$2c^2 - 5c + 6c - 15$$

$$2c^2 - 11c - 15$$

- (b) Make w the subject of the following formula.

[3]

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foil

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(b) Evaluate $\left(\frac{27}{8}\right)^{-\frac{1}{3}}$.

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$$\frac{8^{\frac{1}{3}}}{27}$$

$$\frac{\sqrt[3]{8}}{\sqrt[3]{27}}$$

$$\frac{2}{3}$$

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$$\left(\frac{27}{8}\right)^{-\frac{1}{3}} = \frac{1}{\left(\frac{27}{8}\right)^{\frac{1}{3}}} = \frac{1}{\sqrt[3]{\left(\frac{27}{8}\right)}} = \frac{1}{\left(\frac{3}{2}\right)} = \left(1\frac{1}{2}\right) = 1.5 = \frac{10}{5} = \frac{2}{3}$$

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15. Each of the numbers 1, 3, 5, 5, 5, 6, 7, 8 is written on a card.



Two of the eight cards are selected at random, without being replaced.

Find the probability that

- (a) the product of the numbers on the two cards selected is 25,

[2]

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$$\begin{array}{l}
 \begin{array}{l}
 \frac{3}{8} \rightarrow 5 \\
 \frac{5}{8} \rightarrow \text{not } 5
 \end{array}
 \quad
 \begin{array}{l}
 \frac{2}{7} \rightarrow 5 \\
 \frac{5}{7} \rightarrow \text{not } 5
 \end{array}
 \quad
 \begin{array}{l}
 \frac{3}{8} \times \frac{2}{7} = \frac{21}{56} + \frac{16}{56} \\
 \frac{5}{8} \times \frac{5}{7} = \frac{25}{56} + \frac{27}{56} \\
 \hline
 \frac{37}{112}
 \end{array}
 \end{array}$$

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Handwritten solution:

Tree diagram for selecting two cards:

- First selection: $\frac{3}{8}$ for 5, $\frac{5}{8}$ for not 5.
- Second selection (if first was 5): $\frac{2}{7}$ for 5, $\frac{5}{7}$ for not 5.

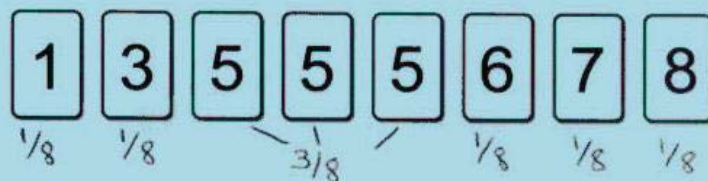
Probability calculation:

$$\frac{3}{8} \times \frac{2}{7} = \frac{21}{56} + \frac{16}{56} = \frac{37}{56}$$

Final answer: $\frac{37}{112}$



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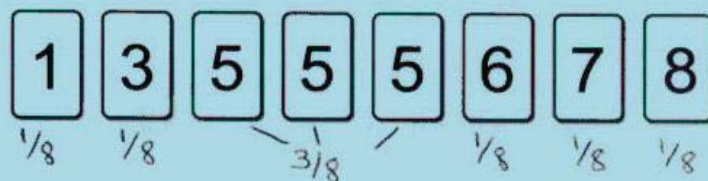
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$$5 \times 5 = 25$$

$$P(5 \times 5) = \frac{3}{8} \times \frac{3}{8}$$
$$= \frac{9}{64}$$

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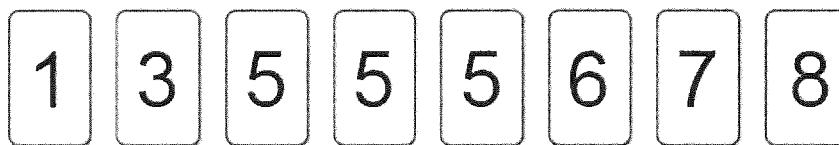
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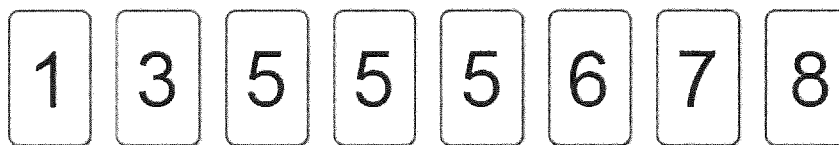
- (a) the product of the numbers on the two cards selected is 25,

[2]

	1	3	5	5	5	6	7	8
1	✓							
3		✓						
5			✓	✓	✓			
5			✓	✓	✓			
5			✓	✓	✓			
6						✓		
7							✓	
8								✓

$$\frac{6}{56} = \frac{3}{28}$$

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	1	3	5	5	5	6	7	8
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3		✓						
5			✓	✓	✓			
5			✓	✓	✓			
5			✓	✓	✓			
6						✓		
7							✓	
8								✓

$$\frac{6}{56} = \frac{3}{28}$$

