1) a)

$(32 \times 3)$ $(32 \times 40)$
2) 

$28 \times 43=1204$

|  |  | 2 | 8 |
| :---: | :---: | :---: | :---: |
|  | $\times$ | 4 | 3 |
|  |  | 8 | 4 |
|  |  | 2 |  |
| 1 | 1 | 2 | 0 |
|  | 3 |  |  |
| 1 | 2 | 0 | 4 |

b)

$56 \times 35=1960$

|  |  | 5 | 6 |
| :--- | :--- | :--- | :--- |
|  | $x$ | 3 | 5 |
|  | 2 | 8 | 0 |
|  |  |  |  |
| 1 | 6 | 8 | 0 |
| 1 | 9 | 6 | 0 |

1) a) Hugo has not used 0 as a placeholder when he multiplied $2 \times 40$, so he has recorded the answer as 8 rather than 80.
b) Hugo has not added the ten that he exchanged when he calculated $4 \times 3=12$.
c) Hugo should not have added in the regrouped digits during the final step of the calculation.
2) 

| $42 \times 38=$ | $12 \times 13=$ | $68 \times 11$ |
| :--- | :--- | :--- |
| Long multiplication. These numbers <br> are more challenging and therefore <br> a mental method would not be mental methods and jottings <br> efficient or reliable. | Use mental methods and jottings. <br> with times tables knowledge. You <br> could find $12 \times 12$ and then add <br> another 12. | You could find $10 \times 68$ and then add |
| another 68. |  |  |

3) $42 \times 38=1596 \quad 12 \times 13=156 \quad 68 \times 11=748$
4) 


2) Children should notice that the hundreds, tens and ones are all the same digit.

For example:
$2+2+2=6 \quad 6 \times 37=222$
$5+5+5=15 \quad 15 \times 37=555$
$3+3+3=9 \quad 9 \times 37=333$
3) Children should notice that every single one-digit number fits the pattern. Children may or may not find an explanation for this independently; you may wish to discuss explanations as a group, as there are a few good explanations.
One example explanation is: $(7+7+7) \times 37=(7 \times 3) \times 37=7 \times(3 \times 37)=7 \times(111)=777$, and the same for other digits. Another might be that: $(1+1+1) \times 37=3 \times 37=1 I I$. If you replace the Is with $2 s$, this would double the answer and you would get 222 - and so on for every other number up to 9 .
For two-digit numbers, children would notice that numbers under 37 give answers where the hundreds and tens digits are the same. However, with numbers 37 and over, this does not always work.

