

LO: To use written methods to solve multiplication problems

**Challenge 1**

1a. Complete the calculation to match the pictorial representation and solve it.



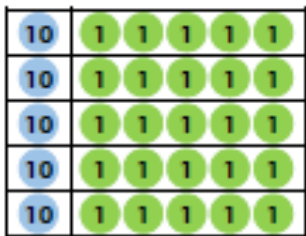
VF

1b. Complete the calculation to match the pictorial representation and solve it.



VF

2a. Complete the pictorial representation and the calculation.

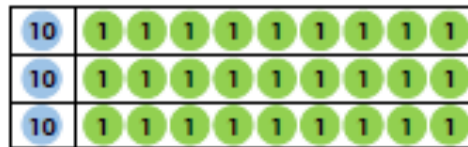


x  =



VF

2b. Complete the pictorial representation and the calculation.

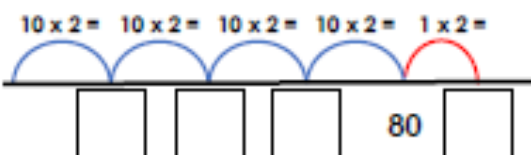


x  =



VF

3a. Complete the number line to work out the answer to  $41 \times 2$ .

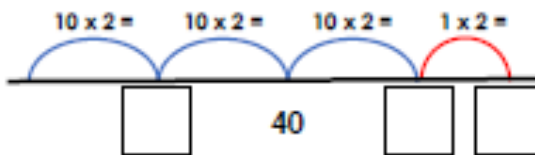


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VF

3b. Complete the number line to work out the answer to  $31 \times 2$ .



- 



VF

4a. True or false? A part-whole model is an efficient way to calculate  $13 \times 5$ .



Use the part-whole model to work out the answer.



VF

4b. True or false? A part-whole model is an efficient way to calculate  $14 \times 3$ .



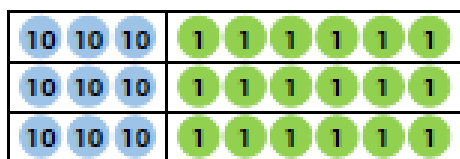
Use the part-whole model to work out the answer.



VF

## Challenge 2

5a. Complete the calculation to match the pictorial representation and solve it.



$$\square \times 3 = \square$$

VF



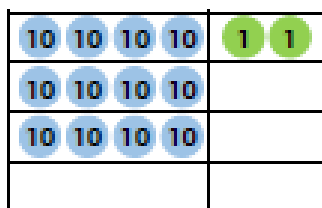
5b. Complete the calculation to match the pictorial representation and solve it.



$$\square \times 4 = \square$$

VF

6a. Complete the pictorial representation and the calculation.

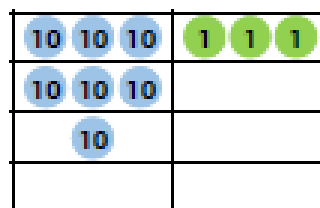


$$\square \times 4 = \square$$

VF



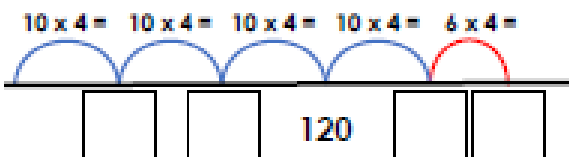
6b. Complete the pictorial representation and the calculation.



$$\square \times 4 = \square$$

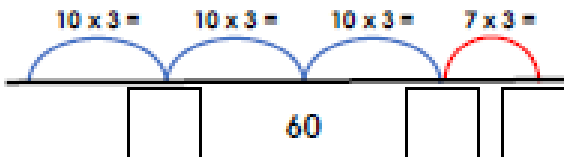
VF

7a. Complete the number line to work out the answer to  $46 \times 4$ .



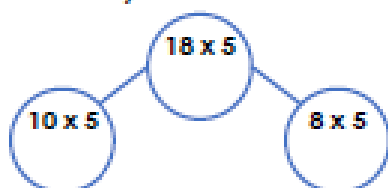
VF

7b. Complete the number line to work out the answer to  $37 \times 3$ .



VF

8a. True or false? A part-whole model is an efficient way to calculate  $18 \times 5$ .

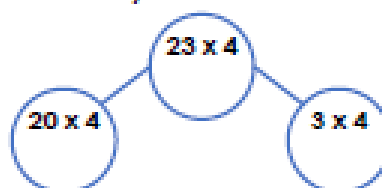


Use the part-whole model to work out the answer.



VF

8b. True or false? A part-whole model is an efficient way to calculate  $23 \times 4$ .



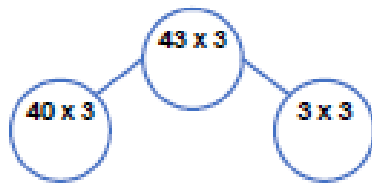
Use the part-whole model to work out the answer.



VF

### Challenge 3

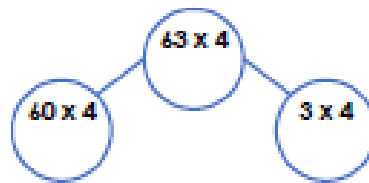
9a. Complete the calculation to match the pictorial representation and solve it.



$$\square \times \square = \square$$

VF

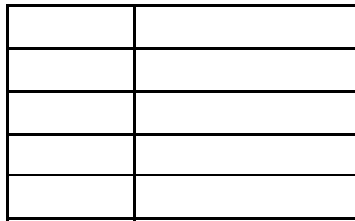
9b. Complete the calculation to match the pictorial representation and solve it.



$$\square \times \square = \square$$

VF

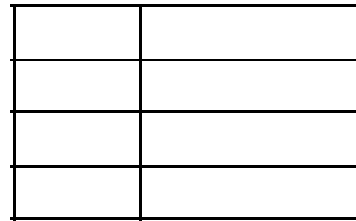
10a. Complete the pictorial representation and the calculation.



$$26 \times \square = \square$$

VF

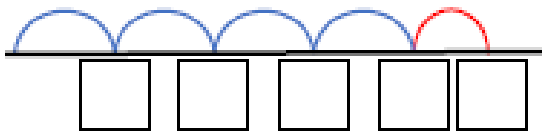
10b. Complete the pictorial representation and the calculation.



$$34 \times \square = \square$$

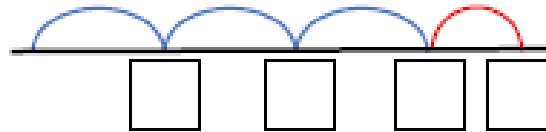
VF

11a. Complete the number line to work out the answer to  $46 \times 7$ .



VF

11b. Complete the number line to work out the answer to  $39 \times 6$ .



VF

12a. True or false? A part-whole model is an efficient way to calculate  $47 \times 5$ .



Use the part-whole model to work out the answer.



VF

12b. True or false? A part-whole model is an efficient way to calculate  $72 \times 6$ .



Use the part-whole model to work out the answer.



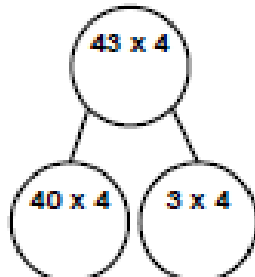
VF

## Extension

4a. Which of the methods below would be the most efficient way of solving the given calculation?

$$43 \times 4 = \square$$

10 10 10 10	1 1 1
10 10 10 10	1 1 1
10 10 10 10	1 1 1
10 10 10 10	1 1 1



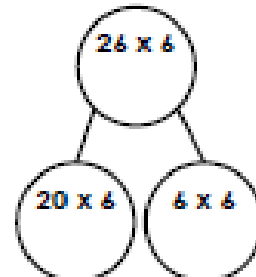
Use it to solve the calculation.

R

4b. Which of the methods below would be the most efficient way of solving the given calculation?

$$26 \times 6 = \square$$

10 10	1 1 1 1 1 1
10 10	1 1 1 1 1 1
10 10	1 1 1 1 1 1
10 10	1 1 1 1 1 1
10 10	1 1 1 1 1 1
10 10	1 1 1 1 1 1

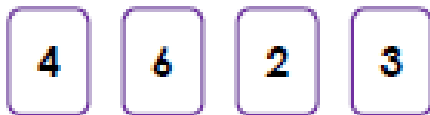


Use it to solve the calculation.

R

5a. Using the digit cards, create a calculation.

$$\square \square \times \square =$$



Use the most efficient method to solve it. You could use a part-whole model, a place value grid or a number line.



PS

5b. Using the digit cards, create a calculation.

$$\square \square \times \square =$$

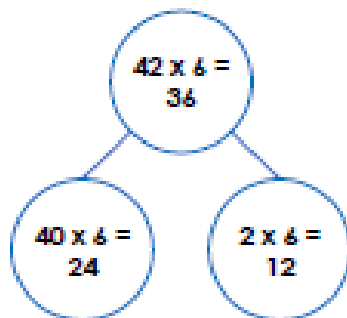


Use the most efficient method to solve it. You could use a part-whole model, a place value grid or a number line.



PS

6a. Julie is solving  $42 \times 6$ .



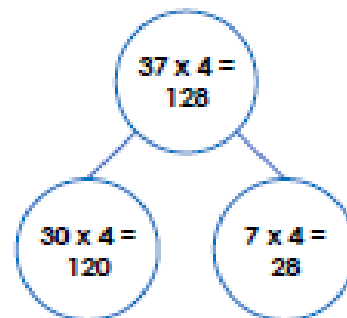
She thinks the answer is 36.

Is she correct? Convince me!



R

6b. Martin is solving  $37 \times 4$ .



He thinks the answer is 128.

Is he correct? Convince me!



R

## Answers

### Developing

1a.  $18 \times 3 = 54$

2a.  $15 \times 5 = 75$

3a.  $41 \times 2 = 82$

4a. True, but allow for varied opinion.  $13 \times 5 = 65$

### Expected

5a.  $36 \times 3 = 108$

6a.  $42 \times 4 = 168$

7a.  $46 \times 4 = 184$

8a. True, but allow for varied opinion.  $18 \times 5 = 90$

### Greater Depth

9a.  $43 \times 3 = 129$

10a.  $26 \times 5 = 130$

11a.  $46 \times 7 = 322$

12a. True, but allow for varied opinion.  $47 \times 5 = 235$

### Developing

1b.  $16 \times 4 = 64$

2b.  $19 \times 3 = 57$

3b.  $31 \times 2 = 62$

4b. True, but allow for varied opinion.  $14 \times 3 = 42$

### Expected

5b.  $45 \times 4 = 180$

6b.  $33 \times 4 = 132$

7b.  $37 \times 3 = 111$

8b. True, but allow for varied opinion.  $23 \times 4 = 92$

### Greater Depth

9b.  $63 \times 4 = 252$

10b.  $34 \times 4 = 136$

11b.  $39 \times 6 = 234$

12b. True, but allow for varied opinion.  $72 \times 6 = 432$

## Extension Answers

### Expected

4a. Either method can be correct as long as the reasoning makes sense, for example:

The part-whole model, because you do not have to draw out the counters.  $43 \times 4 = 172$

5a. Various answers, for example:  $24 \times 3 = 72$

6a. Julie is incorrect. When multiplying  $40 \times 6 = 240$  she has not multiplied 4 x 6 by 10.

### Expected

4b. Either method can be correct as long as the reasoning makes sense, for example:

The part-whole model, because you do not have to draw out the counters.  $26 \times 6 = 156$

5b. Various answers, for example:  $48 \times 5 = 240$

6b. Martin is incorrect. He has multiplied correctly, but not added them correctly.  $120 + 28 = 148$  not 128.