

# Reasoning and Problem Solving

## Step 4: The Multiplication Symbol

### National Curriculum Objectives:

Mathematics Year 2: (2C7) [Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication \( \$\times\$ \), division \( \$\div\$ \) and equals \(=\) signs](#)

Mathematics Year 2:(2C8) [Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts](#)

### Differentiation:

Questions 1, 4 and 7 (Problem Solving)

**Developing** Use digit cards to create 3 repeated addition or multiplications to match an given answer. Use of up to five equal groups of 2 or 10 and with pictorial support.

**Expected** Use digit cards to create 3 repeated addition or multiplications to match an given answer. Use of up to ten equal groups of 2, 3, 5, 6 and 10.

**Greater Depth** Use digit cards to create 3 repeated addition or multiplications to match an given answer. Use of up to ten equal groups of up to 10. Some numbers written as words.

Questions 2, 5 and 8 (Reasoning)

**Developing** Compare the multiplication and repeated addition statements. Use of up to five equal groups of 2 or 10 and with pictorial support.

**Expected** Compare the multiplication and repeated addition statements. Use of up to ten equal groups of 2, 3, 5, 6 and 10.

**Greater Depth** Compare the multiplication and repeated addition statements. Use of up to ten equal groups of up to 10.

Questions 3, 6 and 9 (Reasoning)

**Developing** Explain who has given the correct matching statement by comparing multiplication and repeated addition. Use of up to five equal groups of 2 or 10 and with pictorial support.

**Expected** Explain who has given the correct matching statement by comparing multiplication and repeated addition. Use of up to ten equal groups of 2, 3, 5, 6 and 10.

**Greater Depth** Explain who has given the correct matching statement by comparing multiplication and repeated addition. Use of up to ten equal groups of up to 10. Some numbers written as words.

More [Year 2 Multiplication and Division](#) resources.

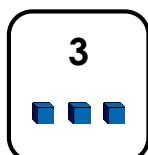
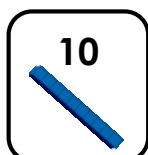
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## The Multiplication Symbol

1a. Use the digit cards below to create 3 repeated addition or multiplications to match Tom's answer.



I got the answer 30.



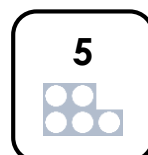
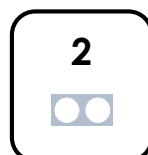
PS

## The Multiplication Symbol

1b. Use the digit cards below to create 3 repeated addition or multiplications to match Katie's answer.



I got the answer 10.



PS

2a. True or false?



$$2 + 2 + 2$$

>

$$2 \times 2$$

Explain your answer.



R

2b. True or false?



$$4 \times 10$$

<

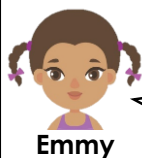
$$10 + 10 + 10$$

Explain your answer.



R

3a. There were 4 bags with 2 balls in each bag.



The multiplication for this problem is  $5 \times 2$ .

Emmy

The repeated addition for this problem is  $2 + 2 + 2 + 2$ .



Anton

Who is correct? Prove it.



R

3b. A fisherman had 2 nets with 10 fish in each net.



The multiplication for this problem is  $3 \times 10$ .

Rayan

The repeated addition for this problem is  $10 + 10$ .



Annie

Who is correct? Prove it.



R

## The Multiplication Symbol

4a. Use the digit cards below to create 3 repeated addition or multiplications to match Jack's answer.



I got the answer 18.

3

6



PS

## The Multiplication Symbol

4b. Use the digit cards below to create 3 repeated addition or multiplications to match Lucy's answer.



I got the answer 12.

4

3



PS

5a. True or false?

$$6 + 6 + 6 + 6 + 6 + 6$$

<

$$10 \times 6$$

Explain your answer.



R

5b. True or false?

$$3 \times 5$$

>

$$5 + 5 + 5$$

Explain your answer.



R

6a. A farmer had 7 fields. He put 5 cows in each field.



Grace

The multiplication for this problem is  $7 \times 7$ .

The repeated addition for this problem is  $5 + 5 + 5 + 5 + 5 + 5 + 5$ .



Chen

Who is correct? Prove it.



R

6b. There are 9 plates on a table with 5 sausages on each plate.



Bethany

The multiplication for this problem is  $9 \times 5$ .

The repeated addition for this problem is  $9 + 9 + 9 + 9$ .



Jamie

Who is correct? Prove it.



R

## The Multiplication Symbol

7a. Use the digit cards below to create 3 repeated addition or multiplications to match Rosie's answer.



I got the answer fifty six.

7

8



PS

## The Multiplication Symbol

7b. Use the digit cards below to create 3 repeated addition or multiplications to match Alex's answer.



I got the answer twenty.

5

4



PS

8a. True or false?

$4 + 4 + 4 + 4 + 4 + 4 + 4$

=

$8 \times 4$

Explain your answer.



R

8b. True or false?

$7 \times 3$

<

$3 + 3 + 3 + 3 + 3 + 3 + 3 + 3 + 3 + 3$

Explain your answer.



R

9a. A farmer had thirty sheep in some fields on his farm.



Abel

The multiplication for this problem is  $7 \times 5$ .

The repeated addition for this problem is  $6 + 6 + 6 + 6 + 6$ .



Amya

Who is correct? Prove it.

List 3 other multiplications or repeated additions that would match this story.



R

9b. A teacher has twenty four pencils in some pencil pots.



Amanda

The multiplication for this problem is  $8 \times 3$ .

The repeated addition for this problem is  $8 + 8 + 8 + 8$ .



George

Who is correct? Prove it.

List 3 other multiplications or repeated additions that would match this story.



R

## Reasoning and Problem Solving The Multiplication Symbol

### Developing

- 1a. Various answers, for example;  $3 \times 10 = 30$ ,  $10 \times 3 = 30$ ,  $10 + 10 + 10 = 30$   
2a. True because  $2 + 2 + 2 = 6$  and  $2 \times 2 = 4$ ;  $6 > 4$   
3a. Anton is correct because the multiplication is  $4 \times 2$ .

### Expected

- 4a. Various answers, for example;  $3 \times 6 = 18$ ,  $6 + 6 + 6 = 18$ ,  $6 \times 3 = 18$   
5a. True because  $6 + 6 + 6 + 6 + 6 + 6 = 36$  and  $6 \times 10 = 60$ ;  $36 < 60$   
6a. Chen is correct because the multiplication is  $5 \times 7$ .

### Greater Depth

- 7a. Various answers, for example;  $8 \times 7 = 56$ ,  $7 \times 8 = 56$ ,  $8 + 8 + 8 + 8 + 8 + 8 + 8 = 56$   
8a. False because  $4 + 4 + 4 + 4 + 4 + 4 + 4 = 28$  and  $8 \times 4 = 32$ ;  $28 < 32$   
9a. Amya is correct because  $6 + 6 + 6 + 6 + 6 = 30$ . Various other multiplications and repeated additions, for example;  $3 \times 10$ ,  $10 + 10 + 10$

## Reasoning and Problem Solving The Multiplication Symbol

### Developing

- 1b. Various answers, for example;  $2 \times 5 = 10$ ,  $5 + 5 = 10$ ,  $2 + 2 + 2 + 2 + 2 = 10$   
2b. False because  $4 \times 10 = 40$  and  $10 + 10 + 10 = 30$ ;  $40 > 30$   
3b. Annie is correct because the multiplication is  $2 \times 10$ .

### Expected

- 4b. Various answers, for example;  $4 \times 3 = 12$ ,  $3 \times 4 = 12$ ,  $4 + 4 + 4 = 12$   
5b. False because  $3 \times 5 = 15$  and  $5 + 5 + 5 = 15$ .  $15 = 15$   
6b. Bethany is correct because the repeated addition is  $5 + 5 + 5 + 5 + 5 + 5 + 5 + 5 + 5$ .

### Greater Depth

- 7b. Various answers, for example;  $5 + 5 + 5 + 5 = 20$ ,  $4 + 4 + 4 + 4 + 4 = 20$ ,  $4 \times 5 = 20$   
8b. True because  $7 \times 3 = 21$  and  $3 + 3 + 3 + 3 + 3 + 3 + 3 = 21$ ;  $21 < 27$   
9b. Amanda is correct because  $8 \times 3 = 24$ . Various other multiplications and repeated additions, for example;  $4 \times 6 = 24$ ,  $8 + 8 + 8 = 24$