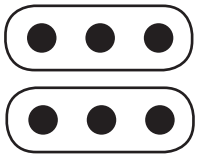
2, 5 and 10s Arrays

Arrays are pictures that help us see numbers. Number sentences are shown with dots and arranged into rows and columns.

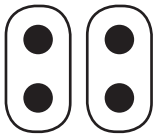
Here is an example:



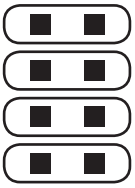
3	+	3	=	6
3	×	2	=	6

1. Write the multiplication calculation and repeated addition for each array.

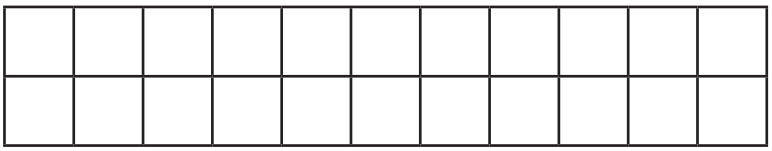
2 × 2



2 × 4

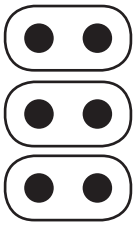


2 × 5

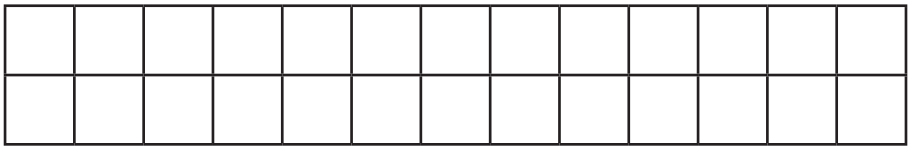


2. Write the multiplication calculation and repeated addition for each array.

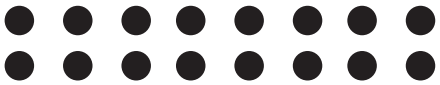
__ × __



__ × __



3. Samir and Iyla are writing number sentences for this array.



8 + 2 = 16

Samir

8 + 8 = 16

Iyla

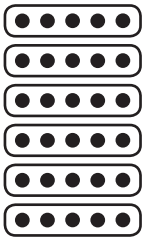
Who do you agree with? Why?

4. The value of an array is 10. What could the array be?

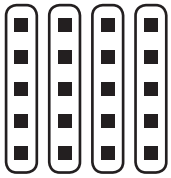
Draw 3 possible arrays to show this. Write the repeated addition and the multiplication calculation for each array.

5. Write the repeated addition and multiplication calculation for each array.

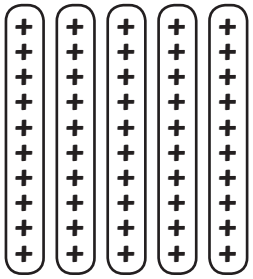
5 × 6



5 × 4

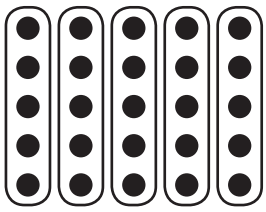


10 × 5

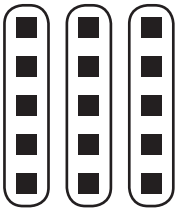


6. Write the repeated addition and multiplication calculation for each array.

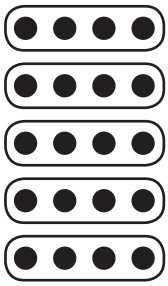
5 × __



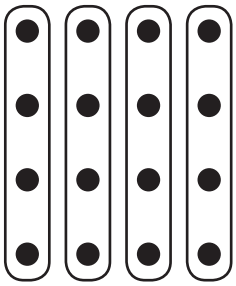
__ × 3



7. Alfie and Sofia are both drawing arrays to show 4 + 4 + 4 + 4 + 4 = 20 or 4 × 5 = 20.



Alfie's array



Sofia's array

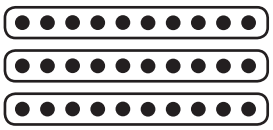
Who do you think has drawn the correct array? Why?

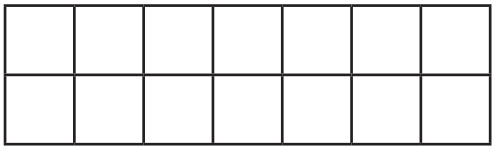
8. The value of an array is 20. What could the array be?

Draw 3 possible arrays to show this and write the repeated addition and the multiplication calculation for each array.

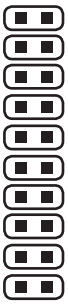
9. Write the repeated addition and multiplication calculation for each array.

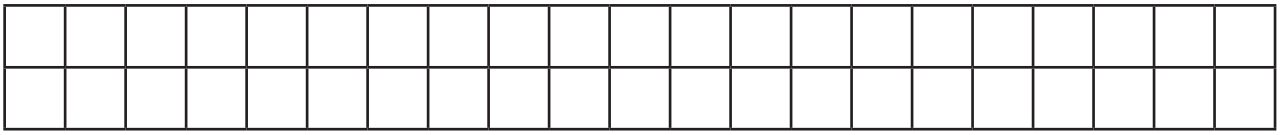
10 × 3



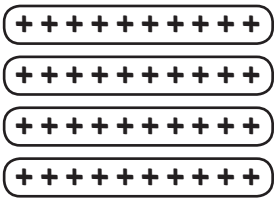


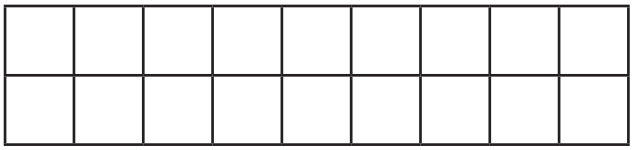
2 × 10





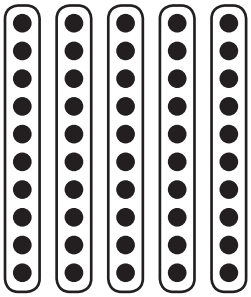
10 × 4

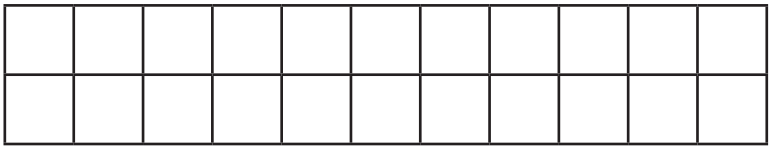




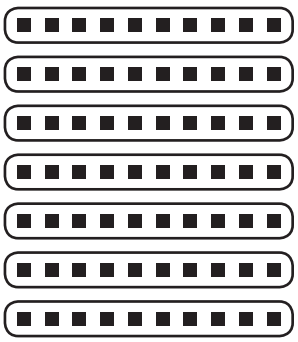
10. Write the repeated addition and multiplication calculation for each array.

__ × 5



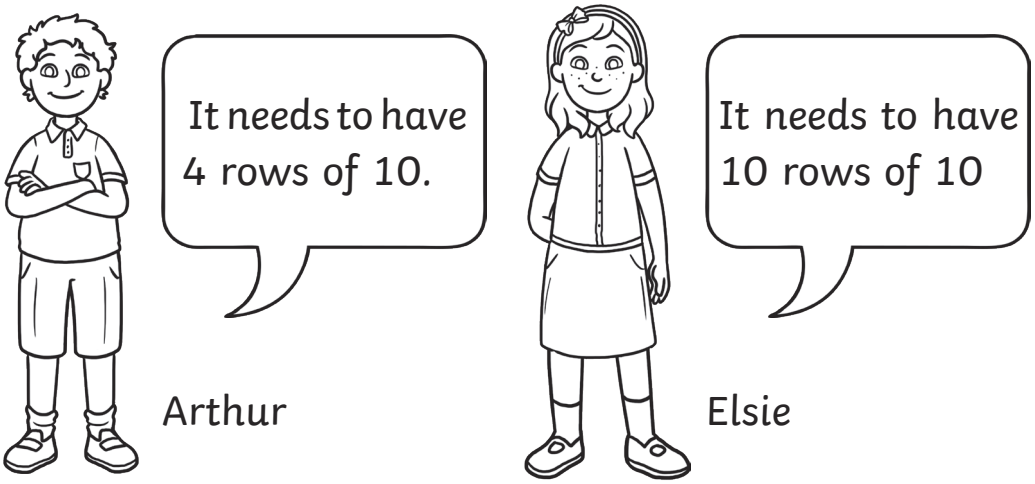


10 × __



11. Elsie and Arthur are drawing an array for this number sentence:

10 + 10 + 10 + 10 = 40



Who do you agree with? Why?

12. The value of an array is 30. What could the array be?

Draw 2 possible arrays to show this and write the repeated addition and the multiplication calculation for each array.

2, 5 and 10s Arrays - Answers

1. Write the repeated addition and multiplication calculation for each array.

2 + 2 = 4

2 × 2 = 4

2 + 2 + 2 + 2 = 8

2 × 4 = 8

2 + 2 + 2 + 2 + 2 = 10

2 × 5 = 10

2. Write the repeated addition and multiplication calculation for each array.

2 + 2 + 2 = 6

2 × 3 = 6

2 + 2 + 2 + 2 + 2 + 2 = 12

2 × 6 = 12

3. Samir and Iyla are writing number sentences for the array.

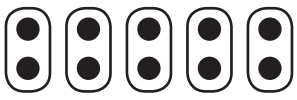
Who do you agree with? **Iyla**

Why? **Because Iyla is explaining that 2 × 8 = 16.**

Samir has added the number of rows and columns together to give him 16. But if Samir had double-checked his answer, he could have spotted his mistake that 8 + 2 doesn't equal 16.

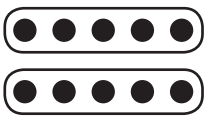
4. The value of an array is 10. What could the array be?

Draw 3 possible arrays to show this and write the repeated addition and the multiplication calculation for each array.



2 + 2 + 2 + 2 + 2 = 10

2 × 5 = 10



5 + 5 = 10

5 × 2 = 10

10 × 1 = 10

5. Write the repeated addition and multiplication calculation for each array.

5 + 5 + 5 + 5 + 5 + 5 = 30

5 × 6 = 30

10 + 10 + 10 + 10 + 10 = 50

10 × 5 = 50

5 + 5 + 5 + 5 = 20

5 × 4 = 20

6. Write the repeated addition and multiplication calculation for each array.

5 + 5 + 5 + 5 + 5 + 5 = 30

5 × 6 = 30

5 + 5 + 5 = 15

5 × 3 = 15

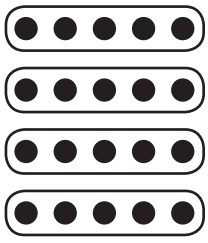
7. Alfie and Sofia are both drawing arrays to show 4 + 4 + 4 + 4 + 4 = 20 or 5 × 4 = 20

Who do you think has drawn the correct array? **Alfie**

Why? **Alfie has shown 5 rows of 4, which is the same as 4 + 4 + 4 + 4 + 4 = 20 or 5 × 4 = 20. Sofia has shown 4 rows of 4 = 16.**

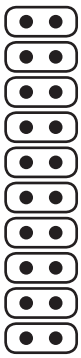
8. The value of an array is 20. What could the array be?

Draw 3 possible arrays to show this and write the repeated addition and multiplication calculation for each array.



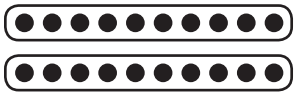
5 + 5 + 5 + 5 = 20

5 × 4 = 20



2 + 2 + 2 + 2 +
2 + 2 + 2 + 2 +
2 + 2 = 20

2 × 10 = 20



10 + 10 = 20

10 × 2 = 10

9. Write the repeated addition and multiplication calculation for each array.

10 + 10 + 10 = 30

10 × 3 = 30

10 + 10 + 10 + 10 = 40

10 × 4 = 40

2 + 2 + 2 + 2 + 2 + 2 + 2 + 2 + 2 + 2 = 20

2 × 10 = 20

10. Write the repeated addition and multiplication calculation for each array.

10 + 10 + 10 + 10 + 10 = 50

10 × 5 = 50

10 + 10 + 10 + 10 + 10 + 10 + 10 = 70

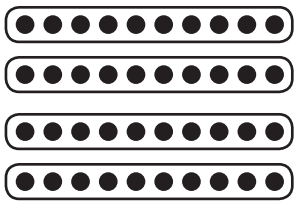
10 × 7 = 70

Elsie and Arthur are drawing an array for this number sentence:

10 + 10 + 10 + 10 = 40

Who do you agree with? **Arthur**

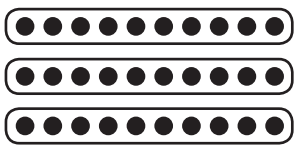
Why? **Arthur is explaining that he will draw the array to show 10 × 4. This will look like this:**



Elsie's array would show 10 × 10. This would be incorrect as 10 × 10 = 100.

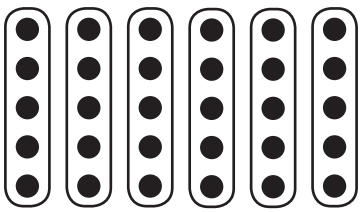
12. The value of an array is 30. What could the array be?

Write the repeated addition and multiplication calculation for each array.



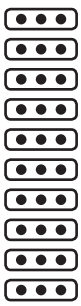
10 + 10 + 10 = 30

10 × 3 = 30



5 + 5 + 5 + 5 + 5 + 5 = 30

5 × 6 = 30



3 + 3 + 3 + 3 + 3 + 3 + 3 + 3 + 3 + 3 = 30

3 × 10 = 30