

15.1.21

LI: To apply my knowledge of multiplication

1.

Here is one batch of muffins.



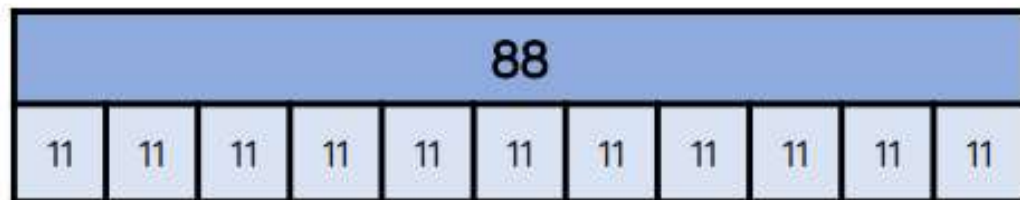
Teddy bakes 11 batches of muffins.
How many muffins does he have altogether?

In each batch there are 3 strawberry, 3 vanilla, 4 chocolate and 2 toffee muffins.
How many of each type of muffin does Teddy have in 11 batches?

Teddy sells 5 batches of muffins.
How many muffins does he have left?

2.

Rosie uses a bar model to represent 88 divided by 11



Explain Rosie's mistake.

Can you draw a bar model to represent 88 divided by 11 correctly?

3.

Choose three digit cards.
Arrange them in the calculation.

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

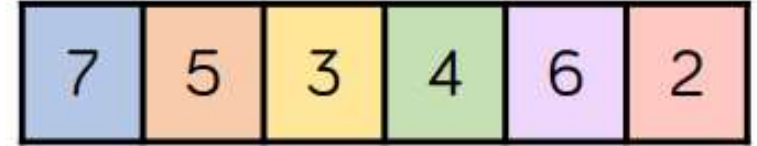
How many different calculations can you make using your three digit cards?

Which order do you find it the most efficient to calculate the product?

How have you grouped the numbers?

4.

Make the target number of 84 using three of the digits below.



$$\square \times \square \times \square = 84$$

Multiply the remaining three digits together, what is the product of the three numbers?

Is the product smaller or larger than 84?

Can you complete this problem in more than one way?

5.

Tommy says



The greater the number, the more factors it will have.

Is Tommy correct?

Use arrays to explain your answer.

6.

Some numbers are equal to the sum of all their factors (not including the number itself).

e.g. 6

6 has 4 factors, 1, 2, 3 and 6

Add up all the factors not including 6 itself.

$$1 + 2 + 3 = 6$$

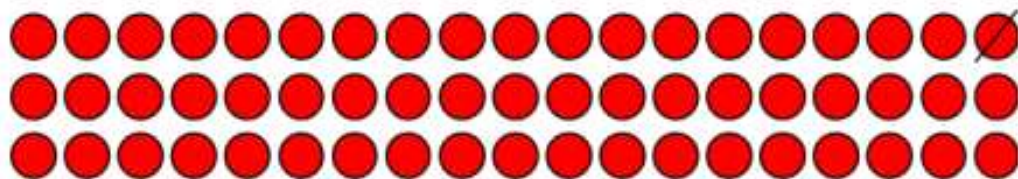
6 is equal to the sum of its factors (not including the number itself)

How many other numbers can you find that are equal to the sum of their factors?

Which numbers are less than the sum of their factors?

Which numbers are greater than the sum of their factors?

Teddy has calculated 19×3



$$20 \times 3 = 60$$

$$60 - 1 = 59$$

$$19 \times 3 = 59$$

Can you explain his mistake and correct the diagram?

Here are three number cards.

21

42

38

Dora, Annie and Eva choose one of the number cards each.

They multiply their number by 5

Dora says,

I did 40×5 and then subtracted 2 lots of five.

Annie says,

I multiplied my number by 10 and then divided 210 by 2

Eva says,

I halved my 2-digit number and doubled 5 so I calculated 21×10

Which number card did each child have?
Would you have used a different method to multiply the numbers by 5?

Here are 6 multiplications.

$$43 \times 5$$

$$54 \times 6$$

$$38 \times 6$$

$$33 \times 2$$

$$19 \times 7$$

$$84 \times 5$$

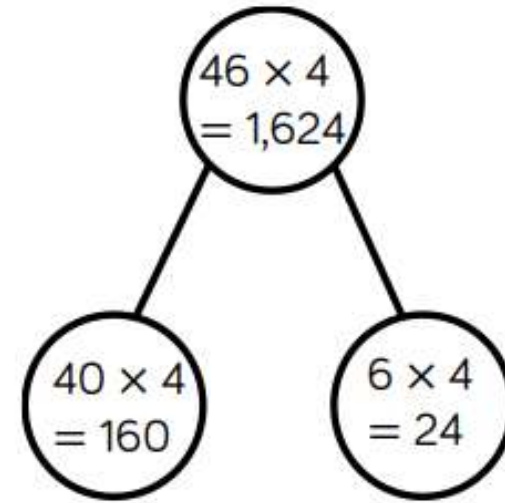
Which of the multiplications would you calculate mentally?

Which of the multiplications would you use a written method for?

Explain your choices to a partner.

Did your partner choose the same methods as you?

Ron is calculating 46 multiplied by 4 using the part-whole model.



Can you explain Ron's mistake?

Alex completes the calculation:

$$43 \times 2$$

Can you spot her mistake?

	T	O
	4	3
×		2
		6
+		8
	1	4

Teddy completes the same calculation as Alex.

Can you spot and explain his mistake?

	T	O
	4	3
×		2
8	0	6

Dexter says,



$$4 \times 21 = 2 \times 42$$

Is Dexter correct?

Here are three incorrect multiplications.

	T	O
	6	1
×		5
<hr/>		
	3	5

	T	O
	7	4
×		7
<hr/>		
4	9	8

	T	O
	2	6
×		4
<hr/>		
8	2	4

Correct the multiplications.

Always, sometimes, never

- When multiplying a two-digit number by a one-digit number, the product has 3 digits.
- When multiplying a two-digit number by 8 the product is odd.
- When multiplying a two-digit number by 7 you need to exchange.

Prove it.