

## Green

### Formal methods of multiplication and division

Circle all of the factor pairs of 48 below.

$6 \times 8$

$3 \times 16$

$5 \times 8$

$4 \times 12$

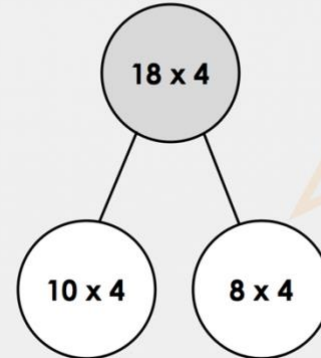
$8 \times 7$

$2 \times 24$

$9 \times 6$

$1 \times 48$

Identify the answer using the part-whole model.



Circle all the factor pairs of 50.

$14 \times 3$

$2 \times 25$

$20 \times 3$

$1 \times 50$

$21 \times 2$

$18 \times 3$

$12 \times 6$

$17 \times 3$

$10 \times 5$

True or false?

	3	3	
x		7	
	2	1	(7 x 3)
2	0	0	(7 x 30)
2	2	1	

Solve the calculation.



x		

$\boxed{44} \times 4 = \boxed{176}$

Which calculation matches the number sentence?

A.

	2	4
x		4
	1	6
	8	0
	9	6

(4 x 4)  
(4 x 20)

B.

	2	4
x		4
	1	6
	8	0
	9	0

(4 x 4)  
(4 x 20)

$24 \times 4$

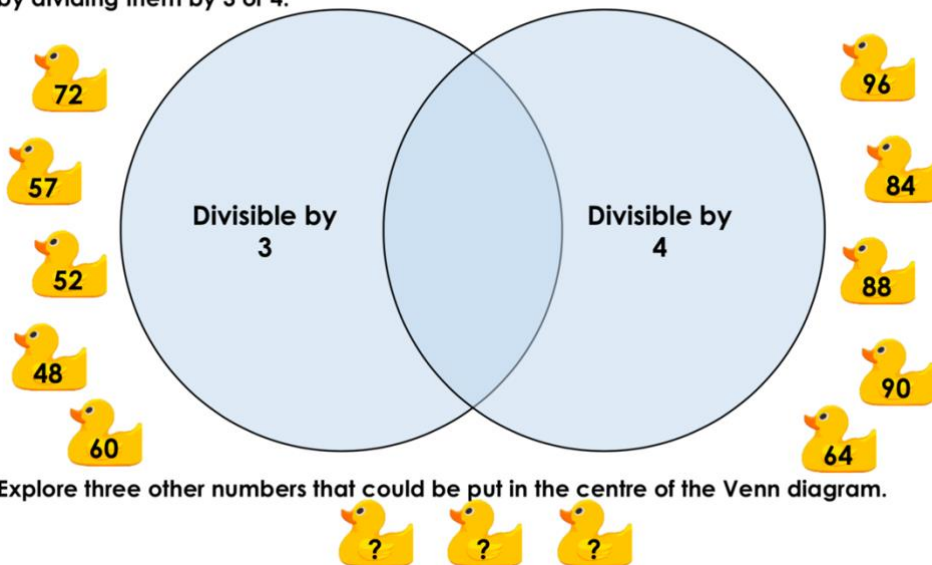
## Yellow

### Formal methods of multiplication and division





**Match the calculation to the answer.**

$85 \div 5$	13
$84 \div 3$	17
$64 \div 4$	28
$91 \div 7$	16

1. Finlay is playing a maths game at the village fayre. He needs to sort the ducks into the correct sections of the pond to win a prize. Help Finlay sort the ducks into the pond by dividing them by 3 or 4.



2. Staff at the aquarium are trying to sort their delivery of fish into 4 tanks. They need to make sure that each tank has an equal amount of each type of fish.

<b>A. 32 fish</b> 	<b>B. A number from the 6 times table with a digit sum of 9.</b> 
<b>C. Double the number of fish A.</b> 	<b>D. A 2-digit number where both digits are the same.</b> 

Investigate how many of each type of fish could be placed in each tank.

## Red

### Formal methods of multiplication and division

8a. Use the digit cards to complete the calculation.

3	7	5	9
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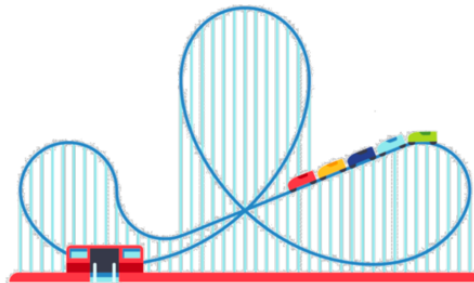
  

x		
2	3	7
	2	

7. Solve the calculation below in the most efficient way.

$$124 \times 7$$

1. A rollercoaster at the theme park runs between five and nine times each day depending on how busy the theme park is.



There are five carriages on the rollercoaster.

Each carriage can hold between four and eight people. There must be a minimum of 4 people in each carriage before the rollercoaster can set off.

Investigate the different number of people that can use the rollercoaster each day.

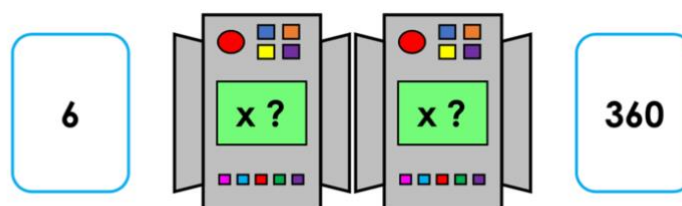
What is the fewest number of people that can ride the rollercoaster?

What is the greatest number of people?

2. Brooke is putting some numbers into the function machines below. Unfortunately, she can't remember what functions she asked each machine to complete!

She knows the number that she inputted into the machine and the output number.

Each machine has a different function.  
The function is between 2 and 12.  
One function machine always produces an even answer.



Using the clues above, investigate the possible functions on each of the machines.

## Green Answers

### Formal methods of multiplication and division

Circle all of the factor pairs of 48 below.

$6 \times 8$

$3 \times 16$

$5 \times 8$

$4 \times 12$

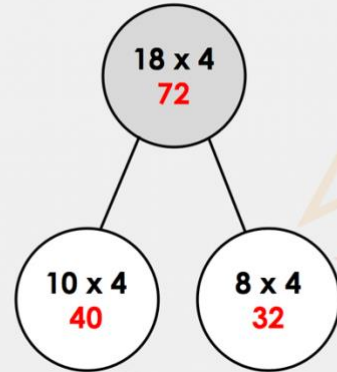
$8 \times 7$

$2 \times 24$

$9 \times 6$

$1 \times 48$

Identify the answer using the part-whole model.



Circle all the factor pairs of 50.

$14 \times 3$

$2 \times 25$

$20 \times 3$

$1 \times 50$

$21 \times 2$

$18 \times 3$

$12 \times 6$

$17 \times 3$

$10 \times 5$

True or false?

	3	3	
x		7	
			(7 x 3)
	2	1	
2	1	0	(7 x 30)
2	3	1	

False:  $33 \times 7 = 231$

Solve the calculation.

10 10 10 10 1 1 1 1 1 1

10 10 10 10 1 1 1 1 1 1

10 10 10 10 1 1 1 1 1 1

10 10 10 10 1 1 1 1 1 1

	4	6
x		4
1	8	4
	2	

46

x

4

=

184

Which calculation matches the number sentence?

A.

	2	4
x		4
	1	6
	8	0
	9	6

(4 x 4)  
(4 x 20)

B.

	2	4
x		4
	1	6
	8	0
	9	0

(4 x 4)  
(4 x 20)

$24 \times 4 = 96$



## Yellow Answers

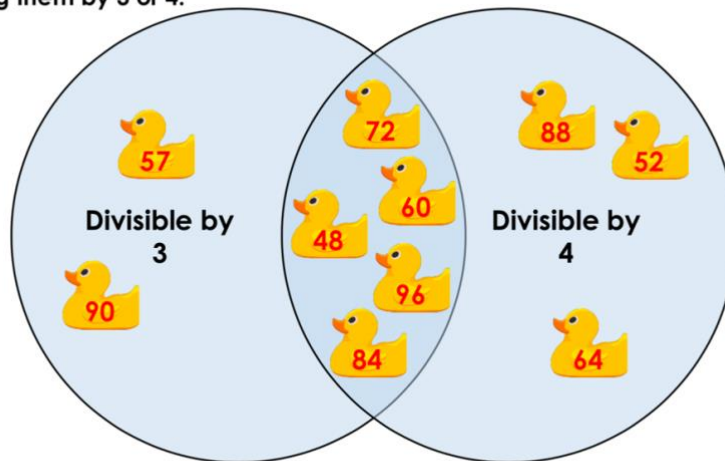
### Formal methods of multiplication and division

Match the calculation to the answer.

$85 \div 5$	13
$84 \div 3$	17
$64 \div 4$	28
$91 \div 7$	16

*(Note: Red lines in the original image connect  $85 \div 5$  to 17,  $84 \div 3$  to 28,  $64 \div 4$  to 16, and  $91 \div 7$  to 13.)*

1. Finlay is playing a maths game at the village fayre. He needs to sort the ducks into the correct sections of the pond to win a prize. Help Finlay sort the ducks into the pond by dividing them by 3 or 4.



Explore three other numbers that could be put in the centre of the Venn diagram.

Various answers, for example:



2. Staff at the aquarium are trying to sort their delivery of fish into 4 tanks. They need to make sure that each tank has an equal amount of each type of fish.

<p>A. 32 fish</p> 	<p>B. 36 fish</p> 
<p>C. 64 fish</p> 	<p>D. 44 fish</p> 

Investigate how many of each type of fish could be placed in each tank.

Various answers, for example: Fish A:  $32 \div 4 = 8$ ; Fish B:  $36 \div 4 = 9$ ; Fish C:  $64 \div 4 = 16$ ; Fish D:  $44 \div 4 = 11$ .

## Red Answers

### Formal methods of multiplication and division

8a.

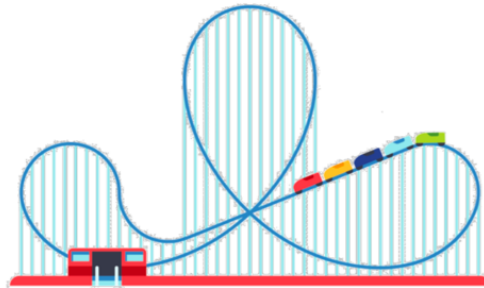
		7	9
x			3
2	3	7	
	2		

7. Solve the calculation below in the most efficient way.

868

$124 \times 7$

1. A rollercoaster at the theme park runs between five and nine times each day depending on how busy the theme park is.



There are five carriages on the rollercoaster.

Each carriage can hold between four and eight people. There must be a minimum of 4 people in each carriage before the rollercoaster can set off.

Investigate the different number of people that can use the rollercoaster each day.

Various answers, for example:  $7 \times 5 \times 6 = 210$  people

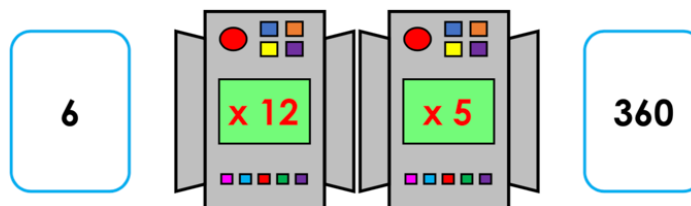
What is the fewest number of people that can ride the rollercoaster?  $5 \times 5 \times 4 = 100$  people

What is the greatest number of people?  $9 \times 5 \times 8 = 360$  people

2. Brooke is putting some numbers into the function machines below. Unfortunately, she can't remember what functions she asked each machine to complete!

She knows the number that she inputted into the machine and the output number.

Each machine has a different function.  
The function is between 2 and 12.  
One function machine always produces an even answer.



Using the clues above, investigate the possible functions on each of the machines.

Various answers, for example: Shown above.