

## My Homework Book (4)

Name:

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Year:

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School:

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### Declaration

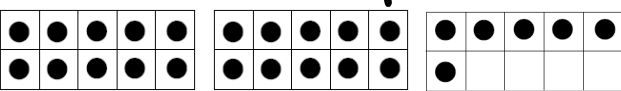
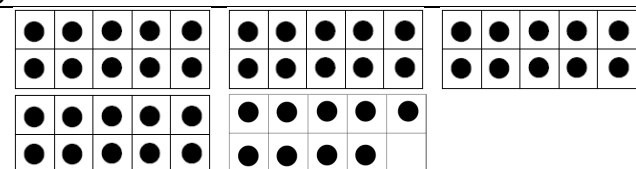
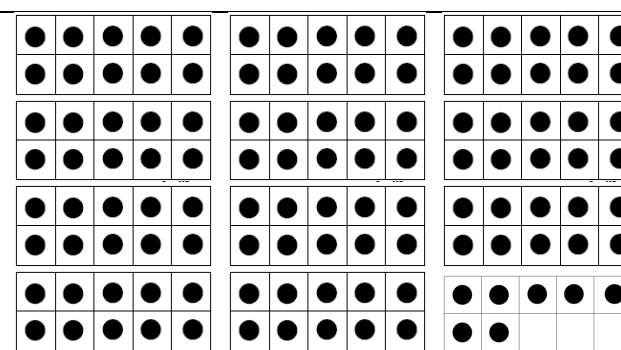
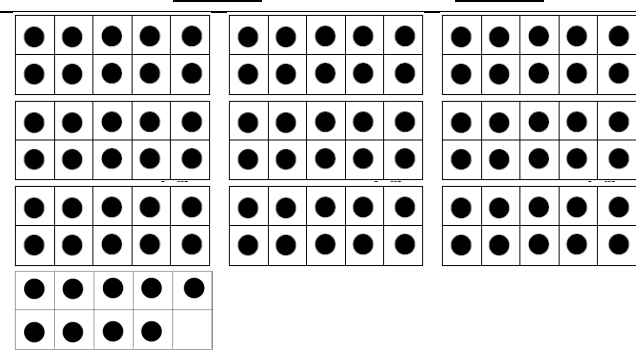
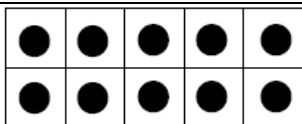
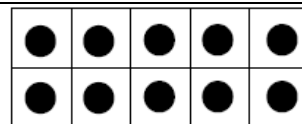
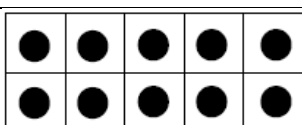
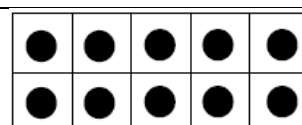
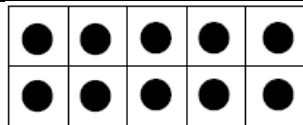
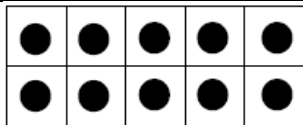
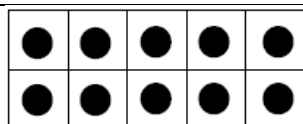
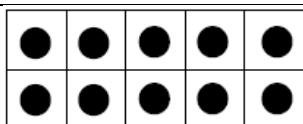
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# MULTIPLICATION

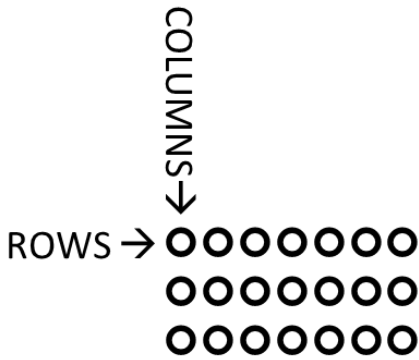
## MULTIPLICATION WITH 10-FRAMES

Work out how many and then write a multiplication sum underneath.

Work out how many altogether. Write a sum below.	
<p style="text-align: center;"><b>Example</b></p>  <p style="text-align: center; font-size: 1.2em;"><b><math>2 \times 10 + 6 = 26</math></b></p>	 <p style="text-align: center; font-size: 1.2em;">_____ <math>\times</math> 10 + _____ =</p>
 <p style="text-align: center; font-size: 1.2em;">_____ <math>\times</math> 10 + _____ =</p>	 <p style="text-align: center; font-size: 1.2em;">_____ <math>\times</math> 10 + _____ =</p>
How many?	
<p style="text-align: center;"><math>4 \times</math> </p> <p style="text-align: center; font-size: 1.2em;"><b>Example: <math>4 \times 10</math> dots = 40</b></p>	<p style="text-align: center;"><math>5 \times</math> </p>
<p style="text-align: center;"><math>8 \times</math> </p>	<p style="text-align: center;"><math>10 \times</math> </p>
<p style="text-align: center;"> <math>\times 2</math></p>	<p style="text-align: center;"> <math>\times 11</math></p>
<p style="text-align: center;"> <math>\times 6</math></p>	<p style="text-align: center;"> <math>\times 12</math></p>

# MULTIPLICATION ARRAYS (1)

**Example**

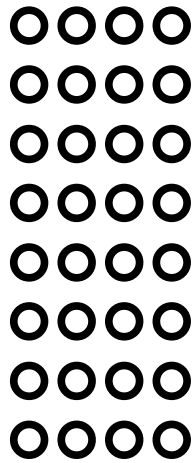


How many? **21**  
I see

**7 columns of 3 OR 3 rows of 7**

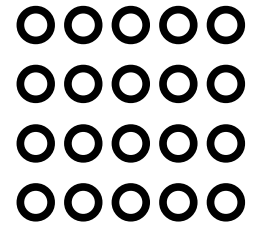
Write a multiplication sum:

**$7 \times 3 = 21$  OR  $3 \times 7 = 21$**



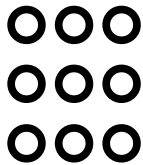
How many?  
I see

Write a multiplication sum



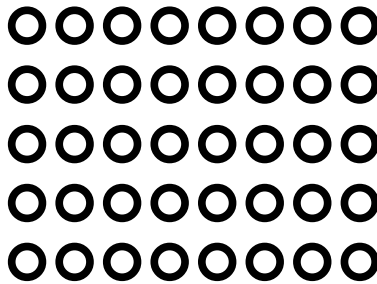
How many?  
I see

Write a multiplication sum



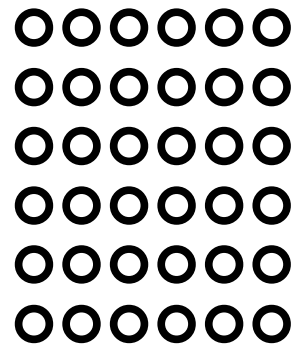
How many?  
I see

Write a multiplication sum



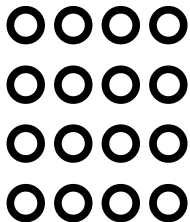
How many?  
I see

Write a multiplication sum



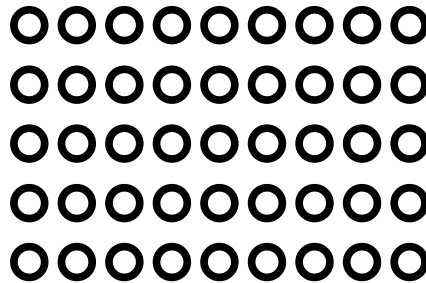
How many?  
I see

Write a multiplication sum



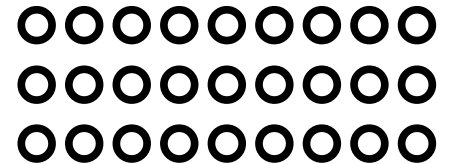
How many?  
I see

Write a multiplication sum



How many?  
I see

Write a multiplication sum



How many?  
I see

Write a multiplication sum

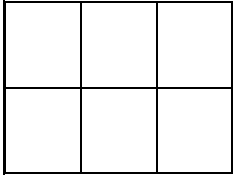
# HOW MANY SQUARES?

## Example

Say how you see it:

I see **2** rows of **3** squares

I see **3** columns of **2** squares



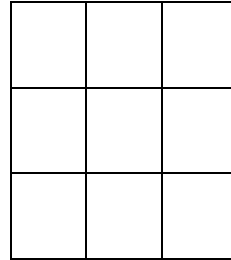
Circle the sums that describe this array?

$2 \times 3 =$

$3 + 3 + 3 =$

$3 \times 3 =$

$3 \times 2 =$



Circle the sums that describe this array?

$3 \times 4 =$

$3 + 3 + 3 =$

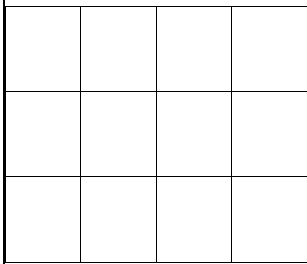
$3 \times 3 =$

$3 + 3 =$

Say how you see it:

I see \_\_\_ rows of \_\_\_ squares

I see \_\_\_ columns of \_\_\_ squares



Circle the sums that describe this array?

$3 \times 4 =$

$3 + 3 + 3 =$

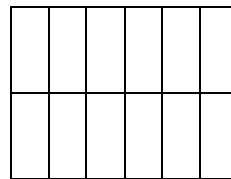
$4 + 3 =$

$3 + 3 + 3 + 3 =$

Say how you see it:

I see \_\_\_ rows of \_\_\_ rectangles

I see \_\_\_ columns of \_\_\_ rectangles



Circle the sums that describe this array?

$2 \times 6 =$

$6 \times 2 =$

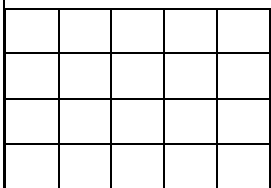
$6 + 6 =$

$6 + 6 + 6 =$

Say how you see it:

I see \_\_\_ rows of \_\_\_ rectangles

I see \_\_\_ columns of \_\_\_ rectangles



Circle the sums that describe this array?

$5 \times 4 =$

$5 + 5 + 5 + 5 =$

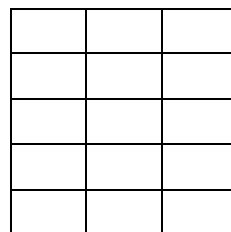
$4 + 5 =$

$5 + 5 =$

Say how you see it:

I see \_\_\_ rows of \_\_\_ rectangles

I see \_\_\_ columns of \_\_\_ rectangles



Circle the sums that describe this array?

$5 \times 4 =$

$3 + 3 =$

$3 \times 3 =$

$3 + 3 + 3 + 3 + 3 =$

## TIMES TABLE PRACTICE (2, 3, 5 AND 10 X TABLES)

4 x 2 = _____	6 x 5 = _____	8 x 3 = _____
6 x 2 = _____	4 x 5 = _____	4 x 2 = _____
9 x 2 = _____	5 x 5 = _____	6 x 2 = _____
7 x 2 = _____	8 x 5 = _____	9 x 10 = _____
5 x 2 = _____	10 x 5 = _____	4 x 5 = _____
2 x 2 = _____	7 x 5 = _____	2 x 10 = _____
10 x 2 = _____	9 x 5 = _____	7 x 5 = _____
4 x 3 = _____	10 x 10 = _____	7 x 2 = _____
8 x 3 = _____	6 x 10 = _____	2 x 5 = _____
3 x 3 = _____	4 x 10 = _____	10 x 3 = _____
6 x 3 = _____	9 x 10 = _____	7 x 3 = _____
10 x 3 = _____	5 x 10 = _____	9 x 2 = _____
7 x 3 = _____	8 x 10 = _____	4 x 3 = _____

## NOW PRACTICE ON THE MULTIPLICATION GRID

X	1	2	3	4	5	6	7	8	9	10
1		2								
2										
3				12						
4						24				40
5						30				
10		20								100

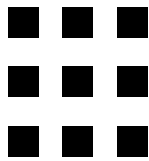
4 X 10 = 40  
OR  
10 X 4 = 40

5 X 6 = 30  
OR  
6 X 5 = 30

## MULTIPLICATION ARRAYS (2)

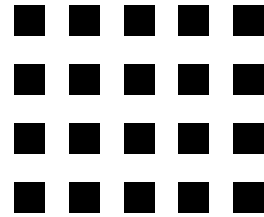
Work out how many and then write a multiplication sum.

**Example**



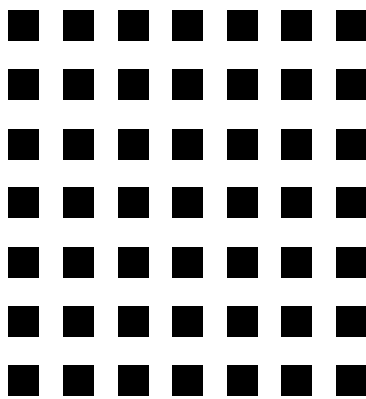
How many? 9

Write a sum:  $3 \times 3 = 9$



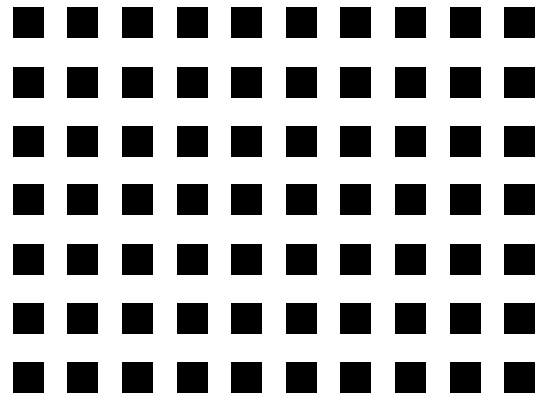
How many?

Write a sum:



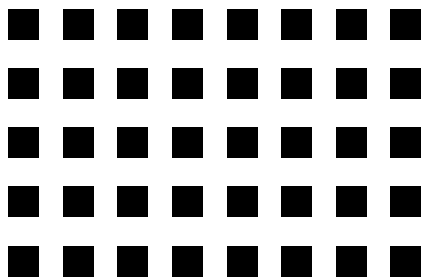
How many?

Write a sum:



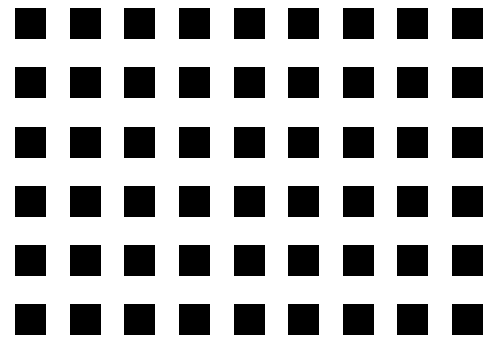
How many?

Write a sum:



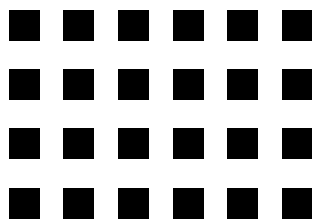
How many?

Write a sum:



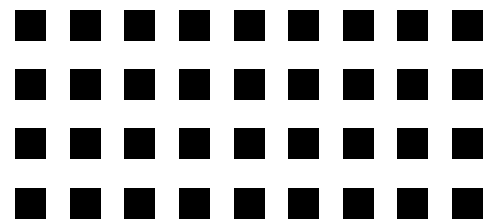
How many?

Write a sum:



How many?

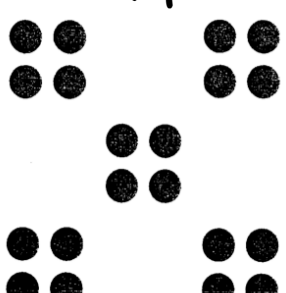
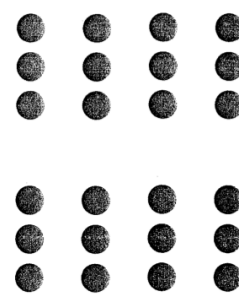
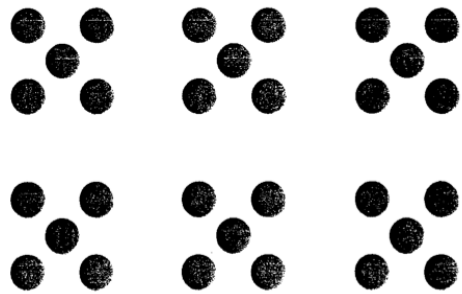
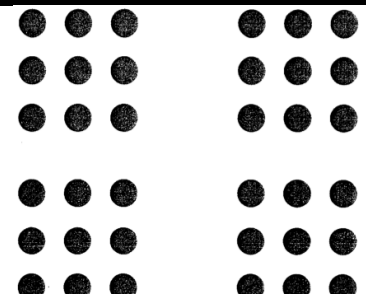
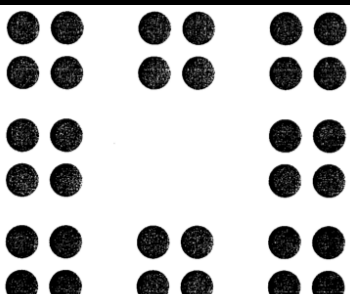
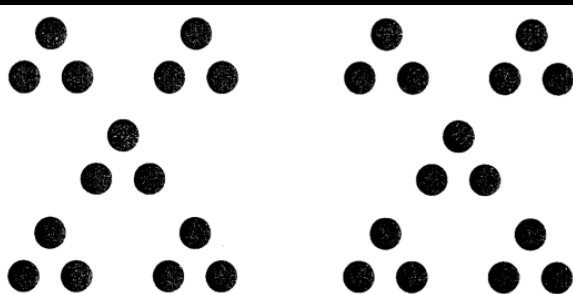

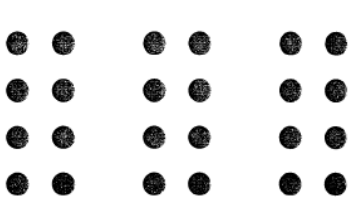

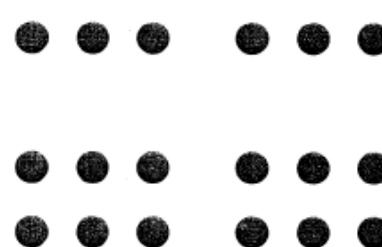
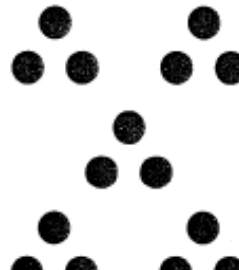

Write a sum:



How many?

Write a sum:

# DOT MULTIPLICATION

<p><i>Example</i></p> 		
<p>How many? <b>20</b> I see <b>5 groups of 4</b> Write a sum: <b><math>5 \times 4 = 20</math></b></p>	<p>How many? I see Write a sum:</p>	<p>How many? I see Write a sum:</p>
		
<p>How many? I see Write a sum:</p>	<p>How many? I see Write a sum:</p>	<p>How many? I see Write a sum:</p>
		
<p>How many? I see Write a sum:</p>	<p>How many? I see Write a sum:</p>	<p>How many? I see Write a sum:</p>
		
<p>How many? I see Write a sum:</p>	<p>How many? I see Write a sum:</p>	<p>How many? I see Write a sum:</p>

## QUICK MULTIPLES

Multiply each number by 1, by 10 and by 100

3	X 1	<b>3</b>	6	X 1		12	X 1	
	X 10	<b>30</b>		X 10			X 10	
	X 100	<b>300</b>		X 100			X 100	
13	X 1		26	X 1		52	X 1	
	X 10			X 10			X 10	
	X 100			X 100			X 100	
4	X 1		8	X 1		16	X 1	
	X 10			X 10			X 10	
	X 100			X 100			X 100	
5	X 1		10	X 1		15	X 1	
	X 10			X 10			X 10	
	X 100			X 100			X 100	
2	X 1		4	X 1		8	X 1	
	X 10			X 10			X 10	
	X 100			X 100			X 100	
7	X 1		14	X 1		21	X 1	
	X 10			X 10			X 10	
	X 100			X 100			X 100	
12	X 1		24	X 1		48	X 1	
	X 10			X 10			X 10	
	X 100			X 100			X 100	

Say what you notice when you do this?



## GRID MULTIPLICATION METHOD

Break it up into easier bits. Some examples have been done for you. Do the same for the others.

Example							
$16 \times 6 = 96$		$37 \times 7 =$		$56 \times 3 =$		$17 \times 4 =$	
X	6	X	7	X	3	X	4
10	60	30		50		10	
6	36	7		6		7	
Answer →	96	Answer →		Answer →		Answer →	
$29 \times 4 =$		$52 \times 5 =$		$23 \times 5 =$		$43 \times 8 =$	
X		X		X		X	
Answer →		Answer →		Answer →		Answer →	
$16 \times 8 =$		$26 \times 6 =$		$46 \times 9 =$		$35 \times 4 =$	
X		X		X		X	
Answer →		Answer →		Answer →		Answer →	
$44 \times 6 =$		$19 \times 8 =$		$24 \times 5 =$		$97 \times 4 =$	
X		X		X		X	
Answer →		Answer →		Answer →		Answer →	

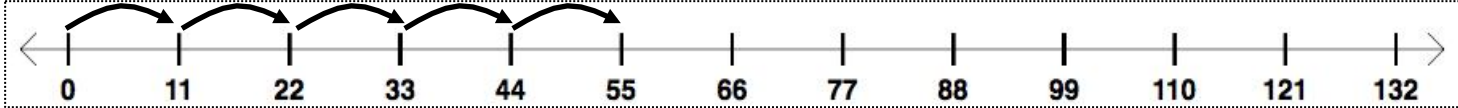
# MULTIPLY THE DOTS

Multiply the dots on the dice and write the answer. Then write the sums.

<p style="writing-mode: vertical-rl; transform: rotate(180deg);"><b>Example</b></p> <p> <math>2 \times 3 = 6</math>  <math>6 \times 3 = 18</math>  <math>18 \times 2 = 36</math> </p>		

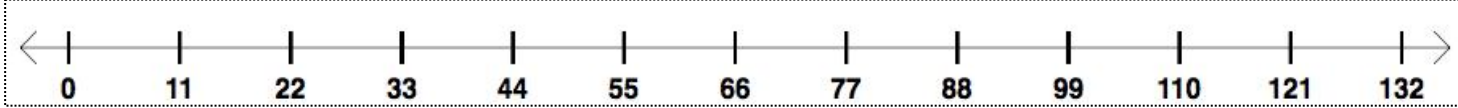
# NUMBER LINE MULTIPLICATION

Count in 11s up to **55**. Draw arrows as you count.



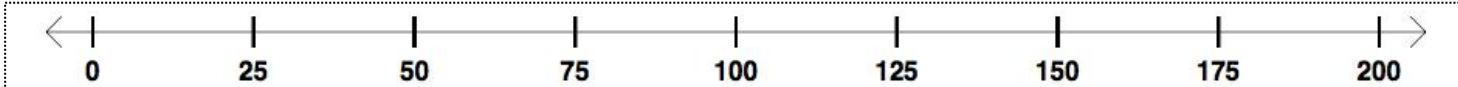
**Example:**  $11 + 11 + 11 + 11 + 11 = 55$   $5 \times 11 = 55$

Now count in 11s up to **99**. Draw arrows as you count.



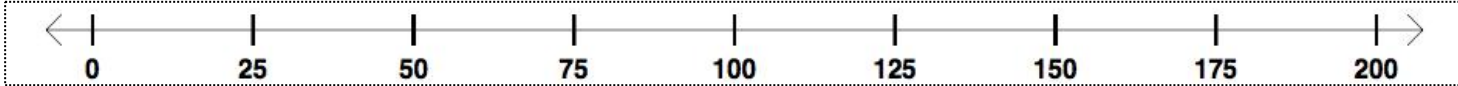
$11 + 11 + 11 + 11 + 11 + 11 + 11 + 11 + 11 = \underline{\quad}$   $\underline{\quad} \times 11 = 99$

Count in 25s up to **150**. Draw arrows as you count.



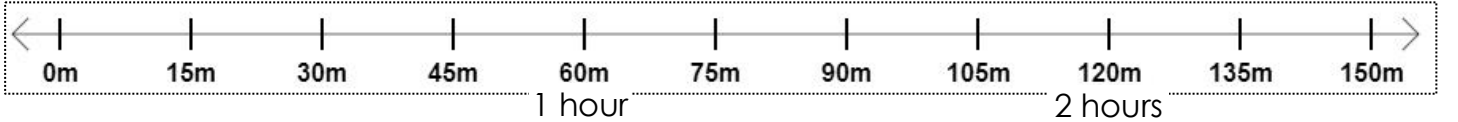
$25 + 25 + 25 + 25 + 25 + 25 = \underline{\quad}$   $\underline{\quad} \times 25 = 150$

Count in 25s up to **200**. Draw arrows as you count.



Write 2 sums

Count in 15s up to **1 hour**. Draw arrows as you count.



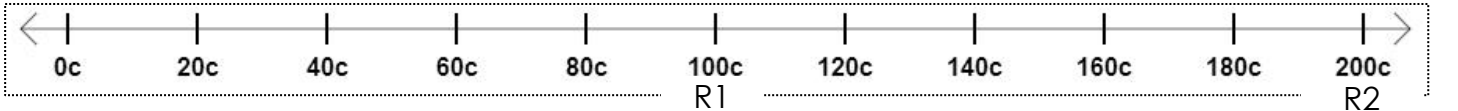
$15m + 15m + 15m + 15m = \underline{\quad}$   $\underline{\quad} \times 15m = 60m$

Count in 30s up to **2 hours**. Draw arrows as you count.



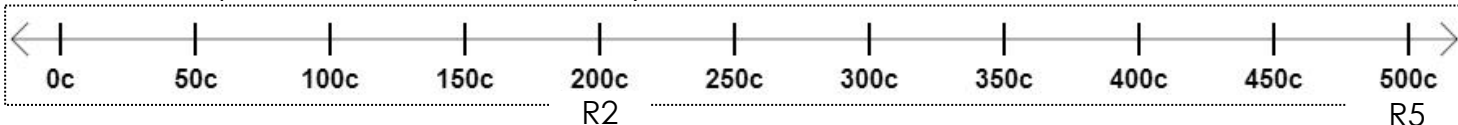
Write 2 sums

Count in 20s up to **R2**. Draw arrows as you count.



Write 2 sums

Count in 50s up to **R5**. Draw arrows as you count.



Write 2 sums

# TIMES TABLE PRACTICE

2 x 4 = _____	6 x 8 = _____	8 x 3 = _____
4 x 7 = _____	4 x 10 = _____	4 x 9 = _____
10 x 12 = _____	9 x 12 = _____	7 x 5 = _____
5 x 6 = _____	10 x 2 = _____	7 x 5 = _____
8 x 8 = _____	6 x 6 = _____	2 x 5 = _____
6 x 9 = _____	9 x 4 = _____	7 x 1 = _____
8 x 9 = _____	6 x 0 = _____	9 x 10 = _____
7 x 2 = _____	8 x 4 = _____	4 x 0 = _____

Now practice on the multiplication grid

x	4	5	2	3	8	10	9	7	6	0
1										
2										
3									<b>18</b>	
4					<b>32</b>					
5										
6					<b>48</b>					
7										
8										
9										<b>0</b>
10										

6 x 3 = 18  
OR  
3 x 6 = 18

Now do these quick multiplication grids

x	5	3	2
10		<b>30</b>	
20			

x	3	5	4
15	<b>60</b>		
25			

x	4	5	2
5			
2		<b>10</b>	

# TIMES TABLES STRATEGIES

## 5 X TABLE STRATEGY – THINK OF 5 AS HALF OF TEN

Jabu says:

5 is half of ten.

Example: what is  $8 \times 5$ ?

$8 \times 10 = 80$

Half of  $80 = 40$

So  $8 \times 5$  is 40

Does Jabu's strategy work?

Now you try Jabu's strategy

$8 \times 5$	
$6 \times 5$	
$9 \times 5$	
$10 \times 5$	
$14 \times 5$	

## 4 X TABLE STRATEGY – THINK OF 'DOUBLE DOUBLE'

Thembi says:

4 is double 2.

So  $\times 4$  is double double

Example: What is  $6 \times 4$ ?

Double 6 is 12

Double 12 is 24

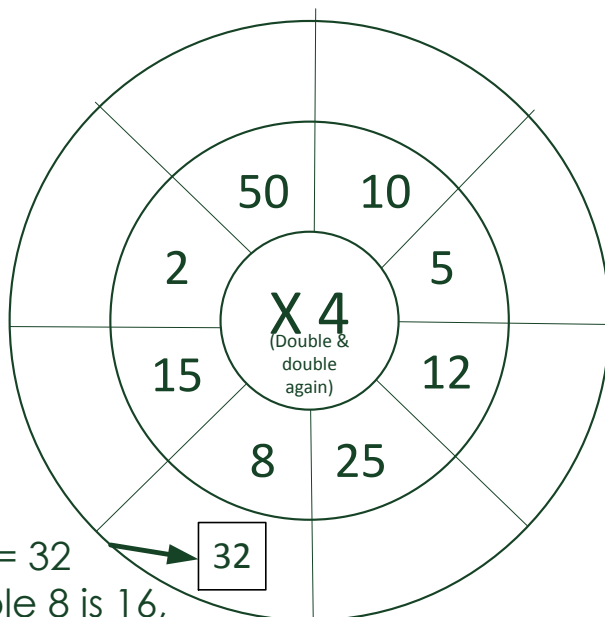
So  $4 \times 6$  is 24

Does Thembi's strategy work?

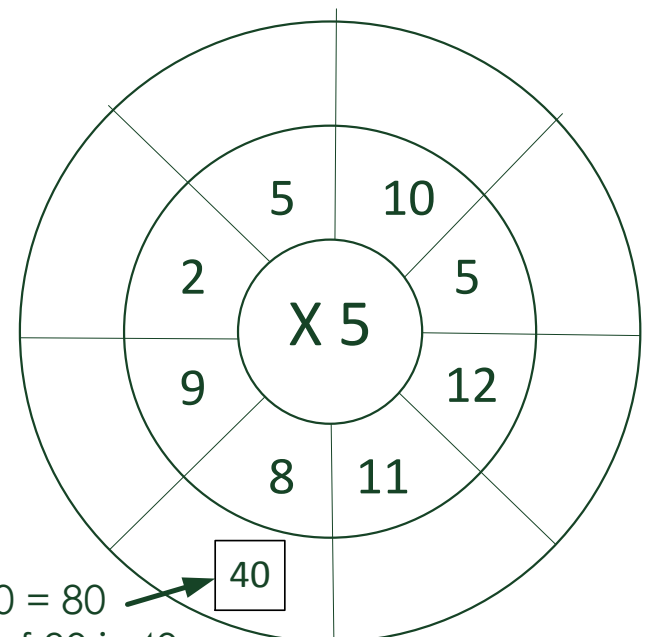
Now try Thembi's strategy

$6 \times 4$	
$8 \times 4$	
$9 \times 4$	
$12 \times 4$	
$14 \times 4$	

Now practice Jabu's and Thembi's strategies



$8 \times 4 = 32$   
 Double 8 is 16,  
 double 16 is 32



$8 \times 10 = 80$   
 Half of 80 is 40

## TIMES TABLE PRACTICE: 10 AND 11 X TABLES

Start in this column	Then do this one	Then do this one
2 x 10 = _____	6 x 10 = _____	10 x 10 = _____
2 x 11 = _____	6 x 11 = _____	10 x 11 = _____
3 x 10 = _____	7 x 10 = _____	11 x 10 = _____
3 x 11 = _____	7 x 11 = _____	11 x 11 = _____
4 x 10 = _____	8 x 10 = _____	12 x 10 = _____
4 x 11 = _____	8 x 11 = _____	12 x 11 = _____
5 x 10 = _____	9 x 10 = _____	13 x 10 = _____
5 x 11 = _____	9 x 11 = _____	13 x 11 = _____

Say what patterns you notice?

## TIMES TABLE PRACTICE: 10 AND 12 X TABLES

Start in this column	Then do this one	Then do this one
2 x 10 = _____	6 x 10 = _____	10 x 10 = _____
2 x 12 = _____	6 x 12 = _____	10 x 12 = _____
3 x 10 = _____	7 x 10 = _____	11 x 10 = _____
3 x 12 = _____	7 x 12 = _____	11 x 12 = _____
4 x 10 = _____	8 x 10 = _____	12 x 10 = _____
4 x 12 = _____	8 x 12 = _____	12 x 12 = _____
5 x 10 = _____	9 x 10 = _____	13 x 10 = _____
5 x 12 = _____	9 x 12 = _____	13 x 12 = _____

Say what patterns you notice?

## MULTIPLICATION PUZZLES

Hidden Shape Puzzle: look at each box. If the answer **adds up to MORE THAN 40**, colour the box. Find the shape

$2 \times 5$	$3 \times 6$	$2 \times 9$	$2 \times 8$	$3 \times 5$	$3 \times 8$
$3 \times 4$	$10 \times 10$	$50 \times 2$	$9 \times 9$	$4 \times 12$	$3 \times 3$
$6 \times 2$	$6 \times 9$	$7 \times 1$	$7 \times 5$	$10 \times 6$	$2 \times 2$
$3 \times 6$	$11 \times 5$	$8 \times 8$	$6 \times 7$	$4 \times 12$	$12 \times 2$
$8 \times 3$	$7 \times 4$	$12 \times 2$	$7 \times 2$	$5 \times 5$	$4 \times 5$

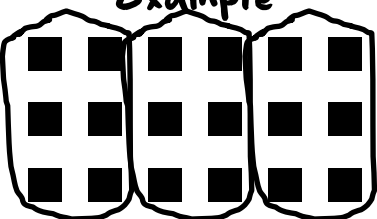
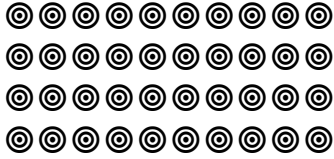
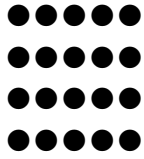


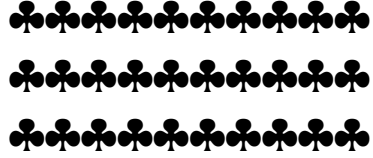


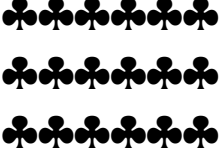
Find the patterns for the missing numbers to complete grid.

			12	15	18		
				20			
	10	15	20			31	
	12				33	36	39
	14						
8		24					
			51	58			
		54					89
			68		76		99

# DIVISION

## SHARING ARRAYS (1)

Write division sums

<p><b>Example</b></p>  <p>Make groups of 6 Show how you divide the shapes</p> <p>I see <b>3</b> groups of <b>6</b> How many? <b>18</b> Write a sum: <b><math>18 \div 3 = 6</math></b></p>	 <p>Make groups of 10 Show how you divide the shapes</p> <p>I see ___ groups of ___ How many? Write a sum:</p>	 <p>Make groups of 5 Show how you divide the shapes</p> <p>I see ___ groups of ___ How many? Write a sum:</p>
 <p>Make groups of 5 Show how you divide the shapes</p> <p>I see ___ groups of ___ How many? Write a sum:</p>	 <p>Make groups of 9 Show how you divide the shapes</p> <p>I see ___ groups of ___ How many? Write a sum:</p>	 <p>Make groups of 10 Show how you divide the shapes</p> <p>I see ___ groups of ___ How many? Write a sum:</p>
 <p>Make groups of 6 Show how you divide the shapes</p> <p>I see ___ groups of ___ How many? Write a sum:</p>	 <p>Make groups of 3 Show how you divide the shapes</p> <p>I see ___ groups of ___ How many? Write a sum:</p>	 <p>Make groups of 6 Show how you divide the shapes</p> <p>I see ___ groups of ___ How many? Write a sum:</p>
<p><b>Draw your own arrays to solve</b></p>		
<p><math>10 \div 2</math></p>	<p><math>20 \div 4</math></p>	<p><math>12 \div 3</math></p>



## QUICK DIVISION

300	$\div 1$	300	100	$\div 1$		400	$\div 1$	
	$\div 10$	30		$\div 10$			$\div 10$	
	$\div 100$	3		$\div 100$			$\div 100$	
600	$\div 1$	300	200	$\div 1$		800	$\div 1$	
	$\div 10$	30		$\div 10$			$\div 10$	
	$\div 100$	3		$\div 100$			$\div 100$	
500	$\div 1$	300	700	$\div 1$		900	$\div 1$	
	$\div 10$	30		$\div 10$			$\div 10$	
	$\div 100$	3		$\div 100$			$\div 100$	
480	$\div 1$		240	$\div 1$		120	$\div 1$	
	$\div 10$			$\div 10$			$\div 10$	
230	$\div 1$		170	$\div 1$		650	$\div 1$	
	$\div 10$			$\div 10$			$\div 10$	
310	$\div 1$		470	$\div 1$		890	$\div 1$	
	$\div 10$			$\div 10$			$\div 10$	
990	$\div 1$		740	$\div 1$		370	$\div 1$	
	$\div 10$			$\div 10$			$\div 10$	

**What pattern do you notice when you divide by 10 or by 100?**

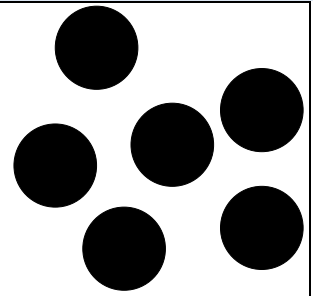
In your home language, discuss with your family or friends.

Say in your own words what pattern you see.

## DIVIDING AS SHARING

Here are 6 counters

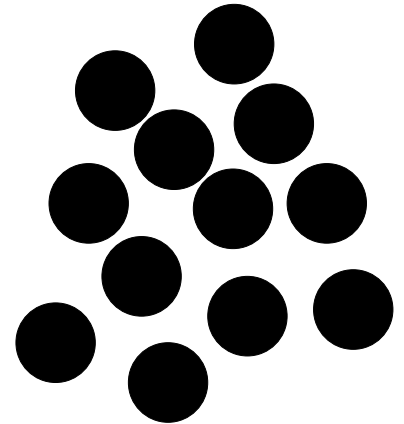
There are 2 friends. Each friend gets half of the counters. How many will each friend get?



Now divide between 3 friends. How many will each friend get?

Here are 12 counters

Divide them between 2 friends. How many will each friend get?

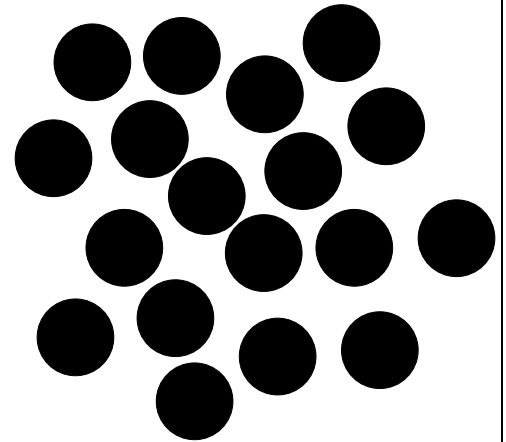


Now divide between 3 friends. How many will each friend get?

Now divide between 4 friends. How many will each friend get?

How many counters are here?

Divide them between 2 friends. How many will each friend get?



Now divide between 3 friends. How many will each friend get?

Now divide between 6 friends. How many will each friend get?

How many counters each?

Now share **36** counters with...

2 friends

**Example**

Sum:  **$36 \div 2$**

**18 counters each**

3 friends

Sum: \_\_\_\_  $\div$  \_\_\_\_

\_\_\_\_ counters each

4 friends

Sum: \_\_\_\_  $\div$  \_\_\_\_

\_\_\_\_ counters each

6 friends

Sum: \_\_\_\_  $\div$  \_\_\_\_

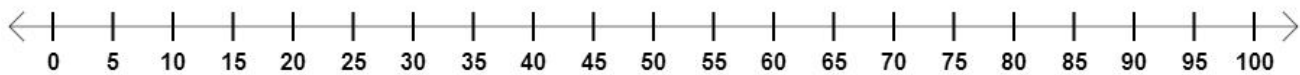
\_\_\_\_ counters each

# PRACTICE

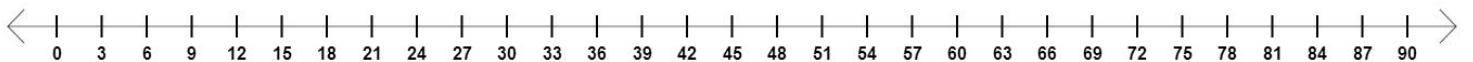
$\div \rightarrow 2$	$\div \rightarrow 10$	$\div \rightarrow 5$	$\div \rightarrow 3$
18 24 8 12 14	9 40 60 20 80 100	15 25 35 40 55	18 24 6 9 12
$\div \rightarrow 4$	$\div \rightarrow 3$	$\div \rightarrow 2$	$\div \rightarrow 6$
16 24 44 56 48	4 18 27 33 45 54	10 20 32 22 16	18 24 12 48 54 7
$\div \rightarrow 8$	$\div \rightarrow 9$	$\div \rightarrow 11$	$\div \rightarrow 12$
16 24 40 56 48	18 27 36 90 45	11 22 44 55 66	12 24 36 48 60
$\div \rightarrow 25$	$\div \rightarrow 15$	$\div \rightarrow 20$	$\div \rightarrow 50$
75 25 100 125 50	15 30 75 60 45	20 40 100 60 80	2 100 300 150 250 350

You can use these number lines to help you

Divide by 5, 10, 15, 20



Divide by 3, 6, 9



## HALVING

Halve these numbers as quickly as you can.

What do you notice about your answers?

6	<b>3</b>	8		50		100	
60		80		500		1000	
4		12		40	<b>20</b>	90	
40		120		500		900	
10		14		16		18	
100		140		160		180	
20		22		24		26	
200		220		240		260	

## DIVIDE BY 2

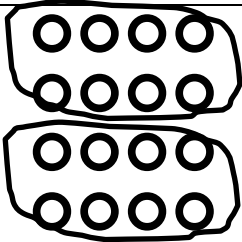
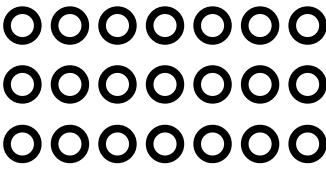
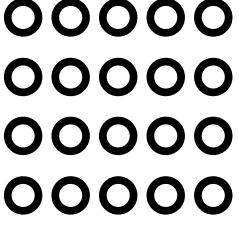
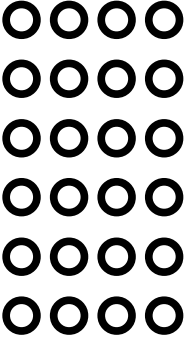
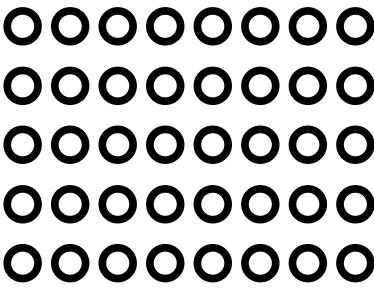
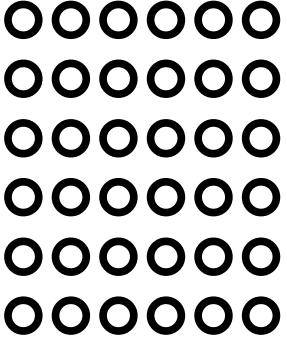
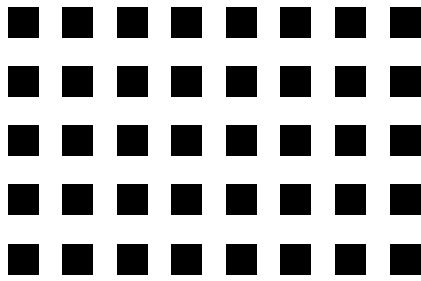
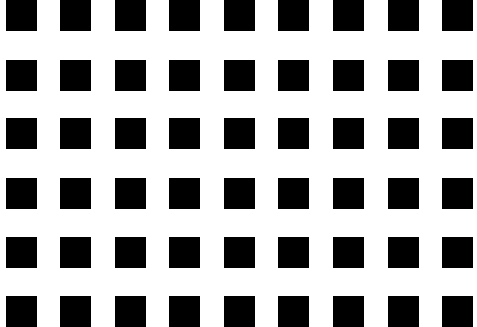
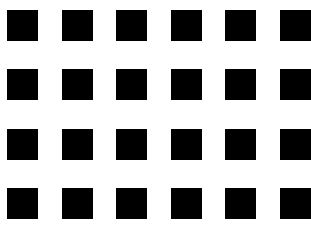
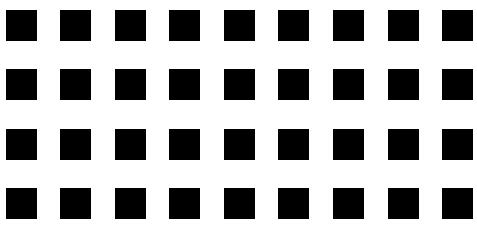
Divide these numbers by 2.

What do you notice about these answers and the ones you halved?

6	<b>3</b>	8		50		100	
60		80		500		1000	
4		12		40	<b>20</b>	90	
40		120		500		900	
10		14		16		18	
100		140		160		180	
20		22		24		26	
200		220		240		260	

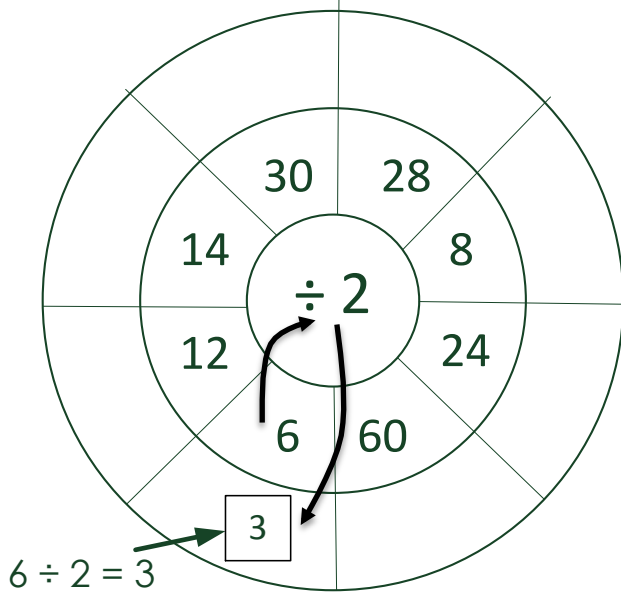
## SHARING ARRAYS (2)

Show how you divide the circles and squares

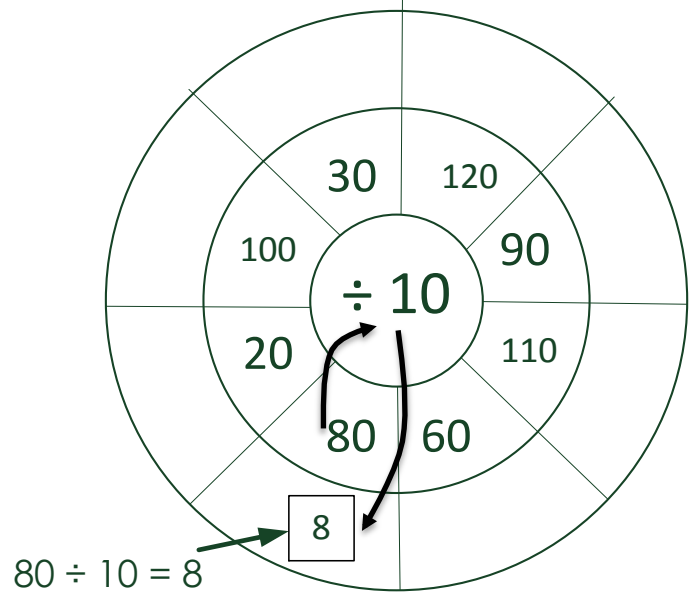
<p><b>Example</b></p>	 <p>Divide by 2</p> <p>How many? <math>16 \div 2 = 8</math></p>	 <p>Divide by 7</p> <p>How many? ___ <math>\div</math> ___ = ___</p>	 <p>Divide by 2</p> <p>How many? ___ <math>\div</math> ___ = ___</p>
 <p>Divide by 2</p> <p>How many? ___ <math>\div</math> ___ = ___</p>	 <p>Divide by 8</p> <p>How many? ___ <math>\div</math> ___ = ___</p>	 <p>Divide by 12</p> <p>How many? ___ <math>\div</math> ___ = ___</p>	
 <p>Divide by 4</p> <p>How many? Write a sum</p>		 <p>Divide by 3</p> <p>How many? Write a sum</p>	
 <p>Divide by 3</p> <p>How many? Write a sum</p>		 <p>Divide by 4</p> <p>How many? Write a sum</p>	

# DIVISION TARGETS

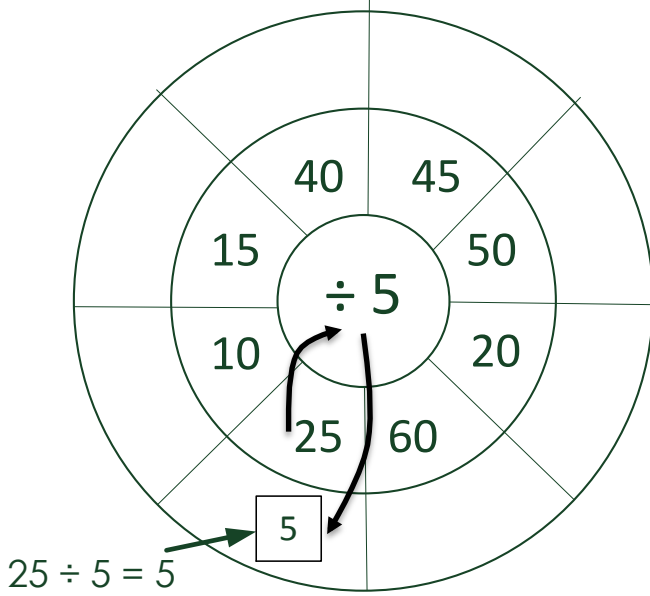
Divide by 2



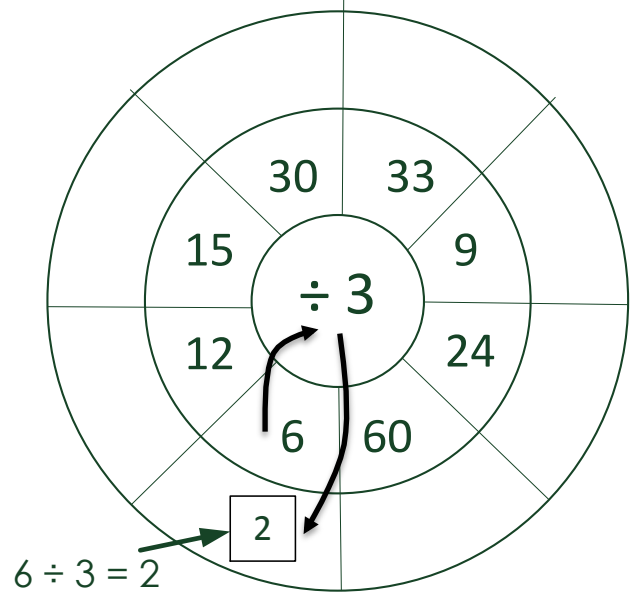
Divide by 10



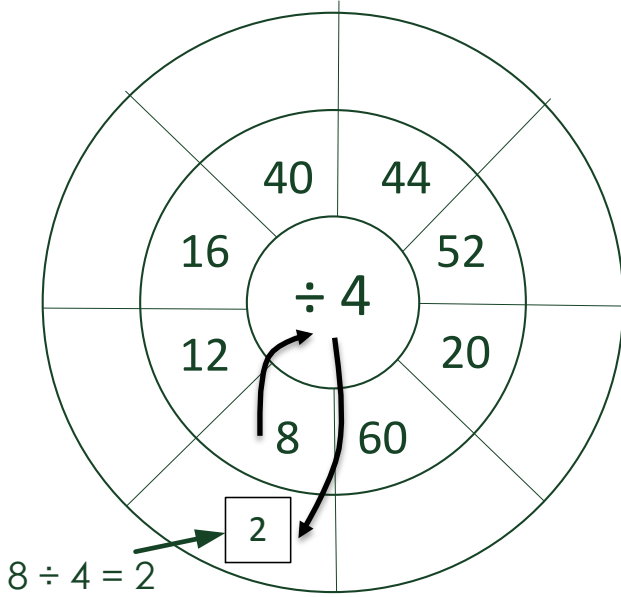
Divide by 5



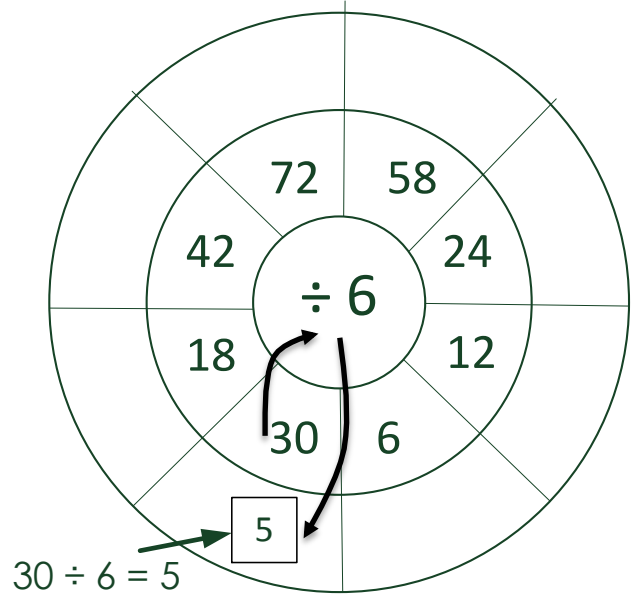
Divide by 3



Divide by 4



Divide by 6



# DIVISION PUZZLES

÷ each number by 2  
(Halving)

36	
70	
54	
24	
44	
72	

÷ each number by 10

70	
110	
150	
40	
180	
220	

÷ each number by 3

36	
27	
33	
42	
18	
30	

÷ each number by 25

50	
100	
150	
72	
200	
250	

Hidden Shape Puzzle: look at each box. If the **ANSWER IS 5**, colour the box.

$35 \div 5$	$50 \div 10$	$16 \div 8$	$35 \div 7$	$24 \div 3$	$40 \div 8$	$30 \div 10$
$15 \div 3$	$60 \div 10$	$20 \div 4$	$4 \div 2$	$25 \div 5$	$30 \div 3$	$45 \div 9$

Hidden Shape Puzzle: look at each box. If the **ANSWER IS 3**, colour the box. Read the message

$14 \div 7$	$27 \div 3$	$10 \div 2$	$12 \div 2$	$14 \div 2$	$18 \div 9$	$20 \div 2$
$35 \div 5$	$27 \div 9$	$16 \div 8$	$36 \div 12$	$24 \div 3$	$6 \div 2$	$30 \div 3$
$16 \div 2$	$30 \div 10$	$15 \div 5$	$45 \div 15$	$24 \div 6$	$12 \div 4$	$40 \div 4$
$16 \div 4$	$75 \div 25$	$21 \div 3$	$15 \div 5$	$8 \div 4$	$18 \div 6$	$44 \div 11$
$15 \div 3$	$60 \div 10$	$20 \div 4$	$4 \div 2$	$25 \div 5$	$30 \div 3$	$32 \div 4$

# MIXED MULTIPLICATION & DIVISION

## FACT FAMILIES

Write four sums to fill in the fact family living in each house

<p style="text-align: center;"><b>Example</b></p> <div style="text-align: center;"> <math>\begin{array}{c} \boxed{12} \\ \times \quad \div \\ \hline \boxed{3} \quad \boxed{4} \end{array}</math> </div> <p> <math>3 \times 4 = 12</math>  <math>4 \times 3 = 12</math>  <math>12 \div 3 = 4</math>  <math>12 \div 4 = 3</math> </p>	<div style="text-align: center;"> <math>\begin{array}{c} \boxed{90} \\ \times \quad \div \\ \hline \boxed{10} \quad \boxed{9} \end{array}</math> </div> <p> <math>\square \times \square = \square</math>  <math>\square \times \square = \square</math>  <math>\square \div \square = \square</math>  <math>\square \div \square = \square</math> </p>	<div style="text-align: center;"> <math>\begin{array}{c} \boxed{14} \\ \times \quad \div \\ \hline \boxed{2} \quad \boxed{7} \end{array}</math> </div> <p> <math>\square \times \square = \square</math>  <math>\square \times \square = \square</math>  <math>\square \div \square = \square</math>  <math>\square \div \square = \square</math> </p>
<div style="text-align: center;"> <math>\begin{array}{c} \boxed{18} \\ \times \quad \div \\ \hline \boxed{3} \quad \boxed{6} \end{array}</math> </div> <p> <math>\square \times \square = \square</math>  <math>\square \times \square = \square</math>  <math>\square \div \square = \square</math>  <math>\square \div \square = \square</math> </p>	<div style="text-align: center;"> <math>\begin{array}{c} \boxed{30} \\ \times \quad \div \\ \hline \boxed{6} \quad \boxed{5} \end{array}</math> </div> <p> <math>\square \times \square = \square</math>  <math>\square \times \square = \square</math>  <math>\square \div \square = \square</math>  <math>\square \div \square = \square</math> </p>	<div style="text-align: center;"> <math>\begin{array}{c} \boxed{22} \\ \times \quad \div \\ \hline \boxed{2} \quad \boxed{11} \end{array}</math> </div> <p> <math>\square \times \square = \square</math>  <math>\square \times \square = \square</math>  <math>\square \div \square = \square</math>  <math>\square \div \square = \square</math> </p>
<div style="text-align: center;"> <math>\begin{array}{c} \boxed{24} \\ \times \quad \div \\ \hline \boxed{6} \quad \boxed{4} \end{array}</math> </div> <p> <math>\square \times \square = \square</math>  <math>\square \times \square = \square</math>  <math>\square \div \square = \square</math>  <math>\square \div \square = \square</math> </p>	<div style="text-align: center;"> <math>\begin{array}{c} \boxed{27} \\ \times \quad \div \\ \hline \boxed{3} \quad \boxed{9} \end{array}</math> </div> <p> <math>\square \times \square = \square</math>  <math>\square \times \square = \square</math>  <math>\square \div \square = \square</math>  <math>\square \div \square = \square</math> </p>	<div style="text-align: center;"> <math>\begin{array}{c} \boxed{60} \\ \times \quad \div \\ \hline \boxed{6} \quad \boxed{10} \end{array}</math> </div> <p> <math>\square \times \square = \square</math>  <math>\square \times \square = \square</math>  <math>\square \div \square = \square</math>  <math>\square \div \square = \square</math> </p>



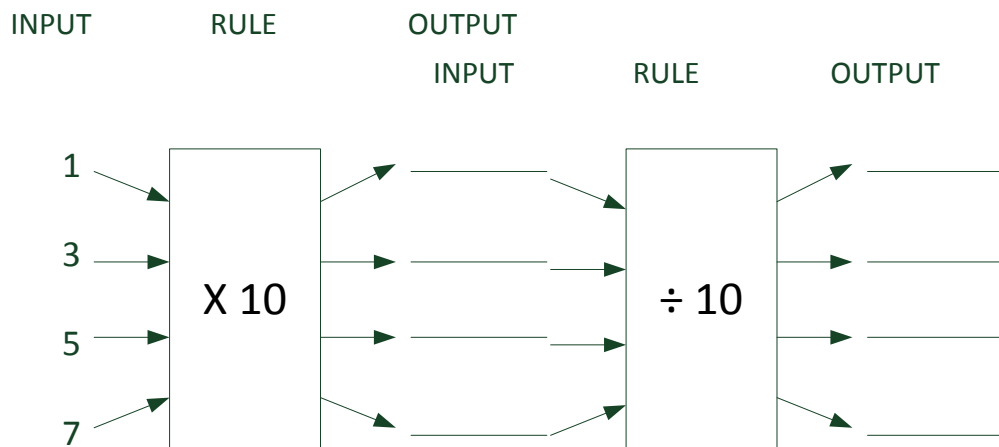
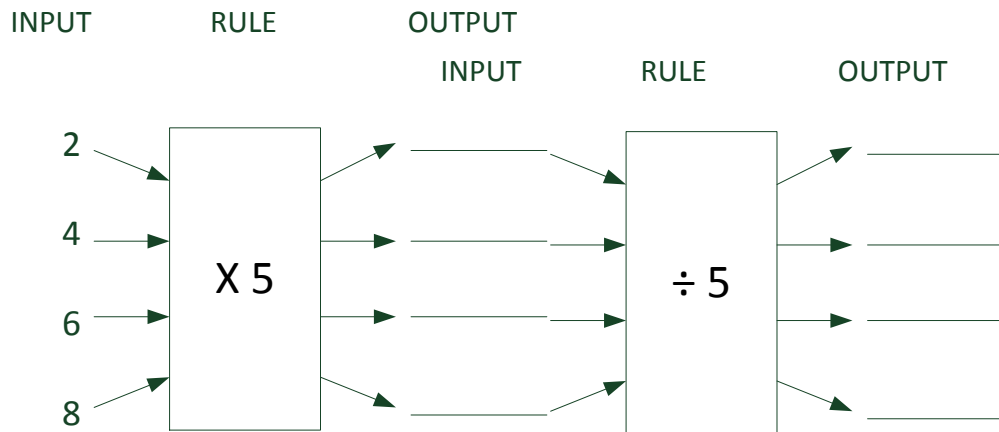
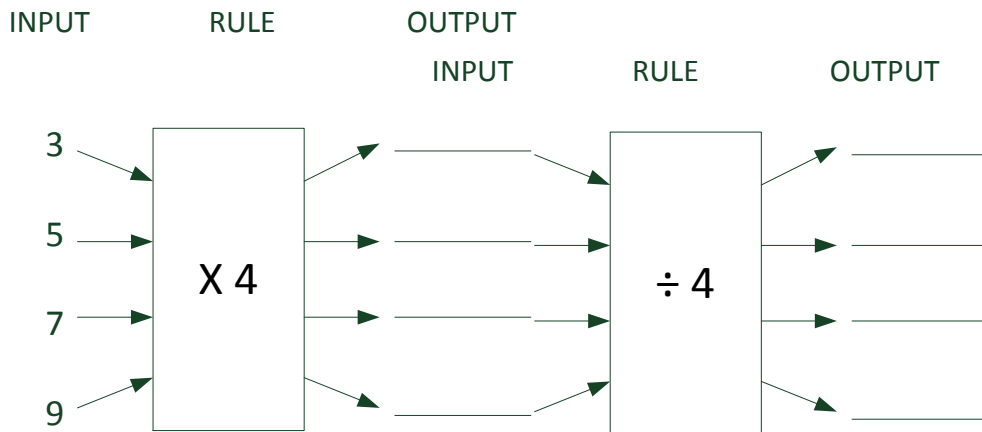
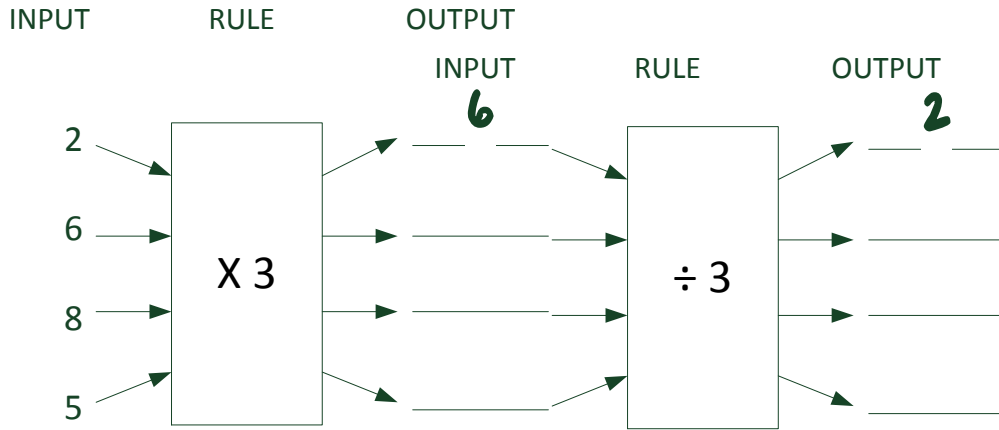
Now try these.

Write 2 multiplication sums and 2 division sums for each set of numbers

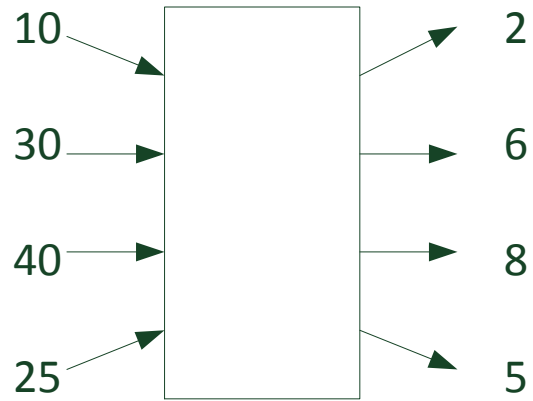
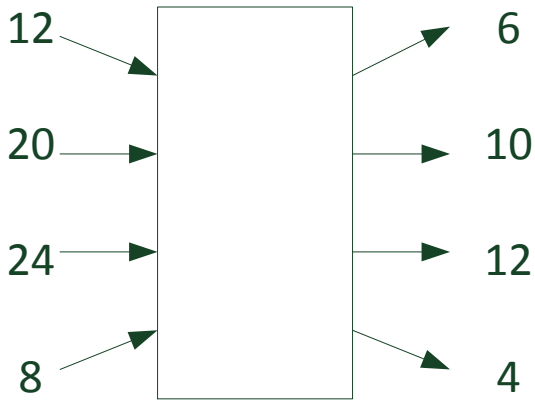
28	7	4	15	5	3	12	3	3
Example	$4 \times 7 = 28$							
	$7 \times 4 = 28$							
	$28 \div 7 = 4$							
	$28 \div 4 = 7$							
24	3	8	24	6	4	24	12	2
36	9	4	36	12	3	36	6	6
40	5	8	40	10	4	40	2	20

# MULTIPLICATION AND DIVISION FLOW DIAGRAMS

How do the flow diagrams on the left link with the ones on the right?



## FIND THE RULE USED IN EACH OF THESE DIAGRAMS



## HOW MANY MULTIPLICATION FACTS?

There are 144 multiplication facts to be remembered. The one times table is easy. So we can take away 23 facts. Now we have 131 facts.

If we know that  $3 \times 5 = 5 \times 3$ , then we are down to 66 facts. Most of these 66 are filled in for you.

**Fill in the rest.**

**Where are the square numbers?**

x	1	2	3	4	5	6	7	8	9	10	11	12
1	1	2	3	4	5	6	7	8	9	10	11	12
2	2											
3	3	6										
4	4	8	12									
5	5	10	15	20								
6	6	12		24	30							
7	7	14	21	28	35	42						
8	8	16	24	32	40	48	56					
9	9	18	27	36	45	54	63	72				
10	10	20		40	50	60		80	90			
11	11	22	33	44	55	66	77		99	110		
12	12	24	36	48	60	72	84	96	108	120	132	

## MIXED PUZZLES

Start with the number in the square EXAMPLE 2	6	4	5
X 3	X 3	X 4	X 4
X 4	X 2	X 2	X 3
÷ 4	÷ 2	÷ 2	÷ 3
÷ 3	÷ 3	÷ 4	÷ 4
2			

Say what you notice about your answers?

Can you think of a reason why this happens?

Hidden Shape Puzzle: look at each box.  
If the answer adds up to **LESS THAN 40**,  
colour the box. Find the shape.

4 x 12	4 x 11	2 x 5	7 x 10	10 x 10
10 x 6	11 x 3	3 x 4	3 x 6	8 x 6
9 x 9	12 x 4	6 x 2	6 x 9	11 x 5
10 x 10	6 x 11	3 x 7	11 x 5	7 x 7
6 x 10	5 x 9	8 x 3	50 x 2	9 x 9