Multiplication Tables Ideas and Activities

COLLIS Primary School

TIMES TABLES ROCK STARS

The Importance of Multiplication Tables?

Please see the Parent Workshop Power Point presentations to accompany this booklet, which can be found on our school website in Curriculum\Subject Areas\Maths.

Learning multiplication tables is an essential part of your child's mathematical education. Children who have mastered their tables gain a solid foundation in mathematics that will help them throughout their progression within the subject. Many children are able to recite in order their timetables, but to truly know the answer to any times table question independently is a skill that takes a lot of hard work.

Mathematics is a language, made up of interconnected concepts. In order for your child to become fluent in the language of mathematics they must master their times tables.

The following booklet is designed to aid parents in helping children reach this expectation, to work in partnership with our school to strive for this goal.

x	0	1	2	3	4	5	6	7	8	9	10	11	12
0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	1	2	3	4	5	6	7	8	9	10	11	12
2	0	2	4	6	8	10	12	14	16	18	20	22	24
3	0	3	6	9	12	15	18	21	24	27	30	33	36
4	0	4	8	12	16	20	24	28	32	36	40	44	48
5	0	5	10	15	20	25	30	35	40	45	50	55	60
6	0	6	12	18	24	30	36	42	48	54	60	66	72
7	0	7	14	21	28	35	34	49	56	63	70	77	84
8	0	8	16	24	32	40	48	56	64	72	80	88	96
9	0	9	18	27	26	45	54	63	72	81	90	99	108
10	0	10	20	30	40	50	60	70	80	90	100	110	120
11	0	11	22	33	44	55	66	77	88	99	110	121	132
12	0	12	24	36	48	60	72	84	96	108	120	132	144

Year Group	Multiplication Table Taught
1	Counting in 2s, 5s and 10s
2	2, 5, 10
3	4, 8
4	3, 6, 9, 7, 11, 12
5	Consolidation
6	Consolidation

Children should learn the multiplication tables in the 'families' described in the progression table – making connections between the multiplication tables in each family will enable children to develop automatic recall more easily, and provide a deeper understanding of multiplication and division.

You get good at what you practice – constant practice is important and revisiting tables learnt in previous year groups is crucial to maintain fluent recall.

Hints and Tips

1. Tip for the 3's

There's a clever trick you can use to find out if a number is in the 3 × table. Add up the digits of the number you want to find out about - this is called finding the digit sum.

If the digit sum is 3, 6, or 9, then you know that it's in the 3 × table.

15, 1 + 5 = 6. 15 is in the 3 x table

156, 1 + 5 + 6 = 12 – then add 1 + 2 = 3. 156 is in the 3 x table

12, 346, 911, 1 + 2 + 3 + 4 + 6 + 9 + 1 + 1 = 27 – then add 2 + 7 = 9. 12, 346, 911 is in the 3 x table.

2. Tip for the 4's

All the numbers in the 4 x table are even – they end with 0, 2, 4, 6 or 8. You can work out a 4 times calculation by doubling the two times table. 7 x 4 is the same as 7 x 2 = 14, then 14 x 2 = 28. As in the 2 times table, the final digit of each answer repeats itself after 5x.

1x4 = 4	6x4 = 24	11x4 = 44
2x4 = 8	7x4 = 28	12x4 = 48
3x4 = 12	8x4 = 32	
4x4 = 16	9x4 = 36	
5x4 = 20	10x4 = 40	

3. Tip for the 6's

All the numbers in the 6 x table are even – they end with 0, 2, 4, 6 or 8. You can work out a 6 times calculation by doubling the three times table. 5 x 6 = 30 is the same as double 5 x 3 = 15.
Multiplying by 6 is also the same as x5 + 1 more group.
For example: **3 x 6** = 3 x 5 + 3 = 15 + 3 = 18.

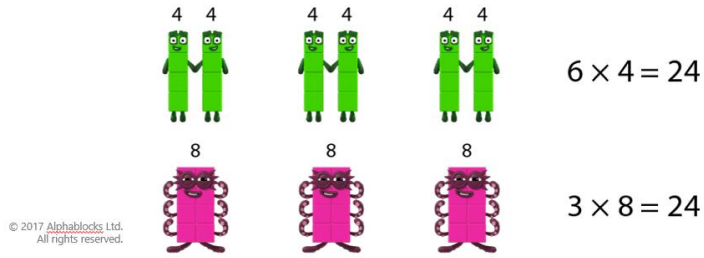
4. Tip for the 7's

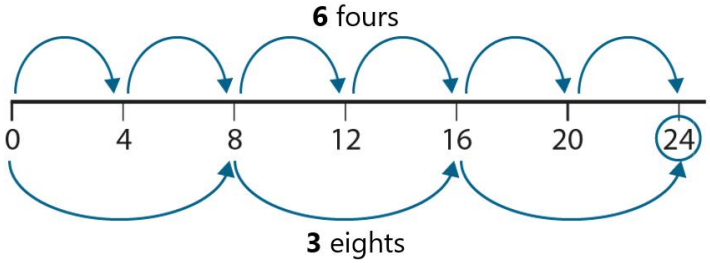
There's no easy trick for finding out if a number is in the 7 × table. But there is a way of remembering the answer to 7 × 8: 56 = 7 × 8. Just remember the sequence: 5, 6, 7, 8. Try reversing the order of the factors if you're having problems. For example, remember that 7 × 5 is the same as 5 × 7 (= 35) so you can use the 5 x table if you know it better.
Multiplying by 7 is also the same as x5 + x2.
For example: 3 x 7 = (3 x 5) + (3 x 2) = 15 + 6 = 21

5. Tip for the 8's

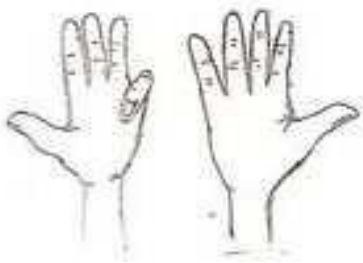
Have a look at the 8 times table again. The ones digits have a regular pattern - they go down in 2s and always repeat. While in the tens place, the numbers are just increasing from top to bottom. It is also double the 4 times table.

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





6. Tip for the 9's



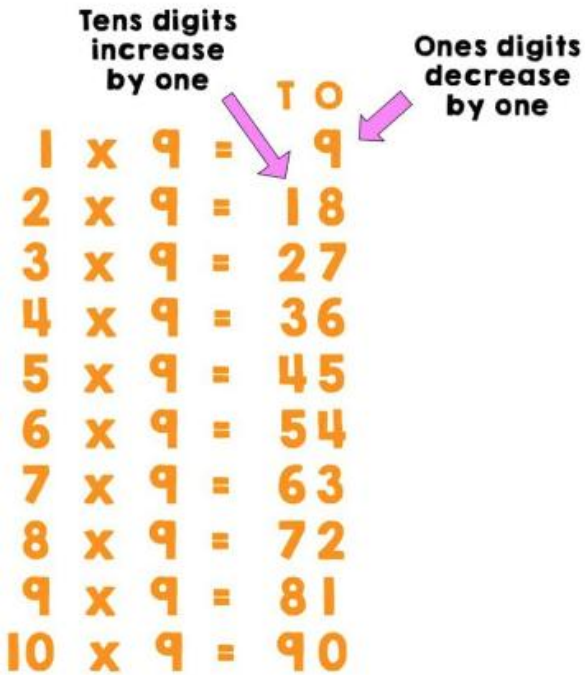
Hold both hands in front of you with all of your fingers up (yes, thumbs too). Whatever number you are multiplying by, put that finger down. The number of fingers to the left of the downed one is the tens place, and the number to the right is the ones place.

For instance: (3 x 9)

Put down the middle finger of your left hand. There are two fingers to the left, and seven fingers to the right. That gives 27, which is the right answer. This works for all of the first ten multiples of nine.
(more information at http://www.multiplication.com/lesson10_nines_fingers.htm)

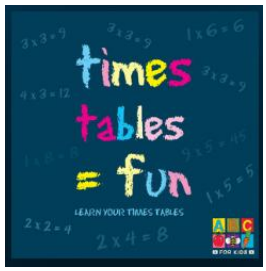
One way of remembering whether a number is in the 9 times table is by knowing that the digits of multiples of 9 (up to 90) always add up to equal 9.

Number	Sum of the digits
9	9
18	9
27	9
36	9
45	9
54	9
63	9
72	9
81	9
90	9
99	9
108	9
For a number to be divisible by nine, the sum of the digits of the number must be divisible by nine.	



There is also a pattern with the ones and tens digits of multiples of 9. As the tens digit increases by 1, the ones digit decreases by 1.

7. Songs



There are plenty of times table songs on Spotify to sing along to. When pupils commit multiplication table facts to memory, they do so by using a verbal sound pattern to associate the 3 relevant numbers, for example, "nine sevens are sixty-three".

8. Mnemonics

These mnemonics can then easily extend further into songs and rhymes.
For example:

- 1 x 3 = 3 the little boy climbed up the tree,
- 2 x 3 = 6 the little boy snapped off some sticks,
- 3 x 3 = 9 he climbed down the washing line, …etc

By adding actions to the songs will aid memory even further.

9. Timing their tests

To test their times table knowledge there are many games that children can play. These can be as simple as writing out twenty mixed questions and timing them to see how quickly they can do it, giving them a target time for their next test.

10. Bingo

Another fun way of testing your child is with a game of times table bingo. This can be done online at the link below;

Online Bingo: https://www.topmarks.co.uk/Flash.aspx?f=BingoMultiplicationv9

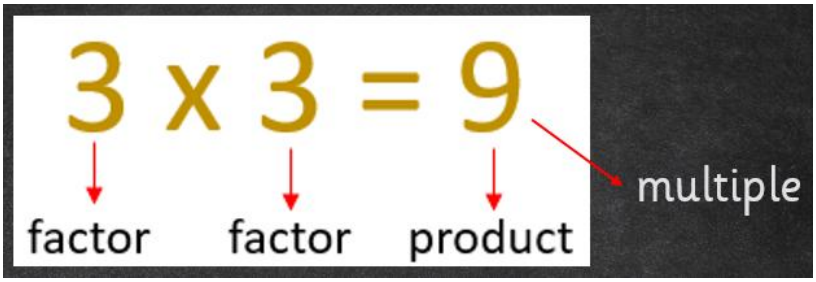
11. FIZZ BUZZ

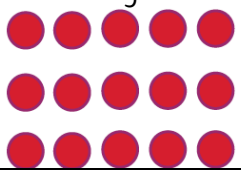
Choose the times table you would like to practise.
Take turns with your child to count from 1 (or you can get the whole family in on this one). When you get to a multiple in your chosen times table, you must say "FIZZ!" instead of the number. A way you can make it harder is to add an extra rule. For example, if any number is also a multiple of six, you have to say BUZZ. If a multiple of both, say FIZZ BUZZ!
Fizz Buzz for the 3 and 6 times table:
1, 2, FIZZ, 4, 5, FIZZ BUZZ, 7, 8, FIZZ, 10, 11, FIZZ BUZZ

Language

Here are some of the words which will crop up when doing multiplication questions. Have a look below to see what they mean.

Multiplication	**Product**	**Double**	**Factor**	**Multiply**
Array	**Groups of**	**Repeated addition**	**Lots of**	**Multiple**



Array	An arrangement of objects, pictures or numbers in equal rows and columns.  This array shows 3 equal rows of 5 and 5 equal rows of 3. 3 x 5 = 5 x 3
Factor	One number is a factor of another number if it divides, or 'goes into' it exactly with no remainders. So, 5 is a factor of 20, but 5 is NOT a factor of 23 because if you tried to divide 23 by 5 you'd be left with a remainder of 3.
Groups of Lots of	4 groups of 2 are 8 4 x 2 = 8 2 lots of 5 are 10 2 x 5 = 10 4 times 4 equals 16 4 x 4 =16
Multiple	Multiples are the numbers you find in any times table. The multiples of 7 are the numbers in the 7 times table, 7, 14, 21, 28 and so on.
Product	The product is the answer that you get when you multiply numbers together. The product of 5 and 4 is 20.
Repeated Addition	Repeated addition is a process of adding equal groups together.  3 + 3 + 3 + 3 +3

Multiplication and division facts

The full set of multiplication calculations that pupils need to be able to solve by automatic recall are shown in the table below. Pupils must also have automatic recall of the corresponding division facts.

1 × 1	1 × 2	1 × 3	1 × 4	1 × 5	1 × 6	1 × 7	1 × 8	1 × 9	1 × 10	1 × 11	1 × 12
2 × 1	2 × 2	2 × 3	2 × 4	2 × 5	2 × 6	2 × 7	2 × 8	2 × 9	2 × 10	2 × 11	2 × 12
3 × 1	3 × 2	3 × 3	3 × 4	3 × 5	3 × 6	3 × 7	3 × 8	3 × 9	3 × 10	3 × 11	3 × 12
4 × 1	4 × 2	4 × 3	4 × 4	4 × 5	4 × 6	4 × 7	4 × 8	4 × 9	4 × 10	4 × 11	4 × 12
5 × 1	5 × 2	5 × 3	5 × 4	5 × 5	5 × 6	5 × 7	5 × 8	5 × 9	5 × 10	5 × 11	5 × 12
6 × 1	6 × 2	6 × 3	6 × 4	6 × 5	6 × 6	6 × 7	6 × 8	6 × 9	6 × 10	6 × 11	6 × 12
7 × 1	7 × 2	7 × 3	7 × 4	7 × 5	7 × 6	7 × 7	7 × 8	7 × 9	7 × 10	7 × 11	7 × 12
8 × 1	8 × 2	8 × 3	8 × 4	8 × 5	8 × 6	8 × 7	8 × 8	8 × 9	8 × 10	8 × 11	8 × 12
9 × 1	9 × 2	9 × 3	9 × 4	9 × 5	9 × 6	9 × 7	9 × 8	9 × 9	9 × 10	9 × 11	9 × 12
10 × 1	10 × 2	10 × 3	10 × 4	10 × 5	10 × 6	10 × 7	10 × 8	10 × 9	10 × 10	10 × 11	10 × 12
11 × 1	11 × 2	11 × 3	11 × 4	11 × 5	11 × 6	11 × 7	11 × 8	11 × 9	11 × 10	11 × 11	11 × 12
12 × 1	12 × 2	12 × 3	12 × 4	12 × 5	12 × 6	12 × 7	12 × 8	12 × 9	12 × 10	12 × 11	12 × 12

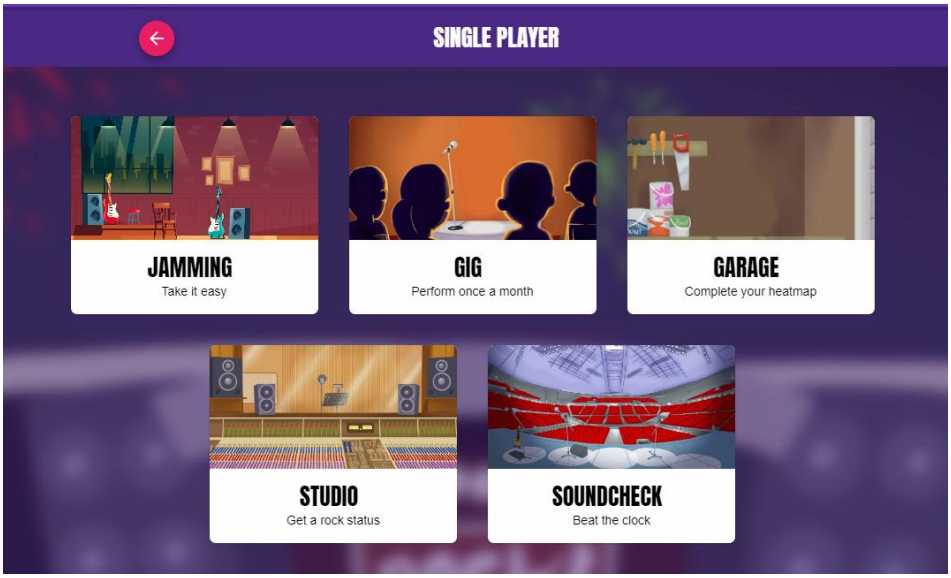
Pupils must be fluent in these facts by the end of year 4, and this is assessed in the multiplication tables check. Pupils should continue with regular practice through year 5 to secure and maintain fluency.

The 36 most important facts are highlighted in the table. Fluency in these facts should be prioritised because, when coupled with an understanding of commutativity and fluency in the formal written method for multiplication, they enable pupils to multiply any pair of numbers.

The **Factual fluency progression** table at the end of this appendix summarises the order in which pupil should learn these multiplicative number facts. Pupils should learn the multiplication tables in the 'families' described in the progression table – making connections between the multiplication tables in each family will enable pupils to develop automatic recall more easily, and provide a deeper understanding of multiplication and division.

Websites - Fun Multiplication Table Games:

- https://ttrockstars.com/ - website used at school and for homework



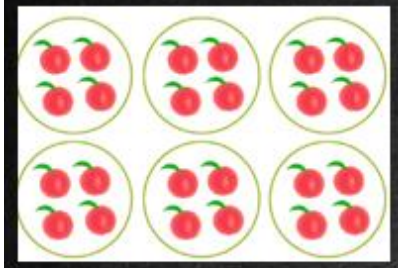
Jamming is the only game mode without a timer, players chose the table and operation (× or ÷ or both) they want to practise. Answer 10, 20 or 30 questions.

Garage is probably the best game made for improving their recall while they're still learning.

The other game modes are suitable for more confident players.

- https://www.topmarks.co.uk/maths-games/hit-the-button - Interactive maths game with quick fire questions on multiplication tables
- https://www.theschoolrun.com/free-times-tables-funpack - multiplication tables worksheets, matching challenges, speed grids and quick quizzes
- https://www.bbc.co.uk/teach/supermovers/times-table-collection/z4vv6v4 - Interactive videos and songs to help practice multiplication tables
- https://mathsticks.com/my/category/calculation/times-tables/ - A variety of games and activities to help practice multiplication tables
- https://www.timestables.co.uk/ - Select one of the times tables you wish to practise and show what you can do on the speed test, Multiplication Tables Check or printout great worksheets.
- https://www.iseemaths.com/tables/ - Visual times table games
- https://www.bbc.co.uk/teach/skillswise/times-tables/z4gs7nb - More tips and tricks for learning multiplication tables

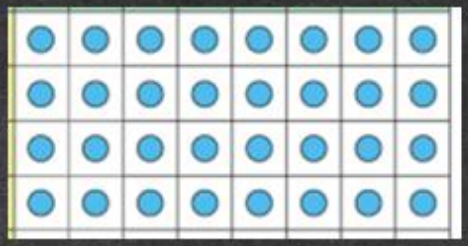
Activities for Home



Use small food items like raisins and grapes when practising grouping and arrays. Lay out a group of raisins (or whatever you prefer) and ask your child to group them into twos, threes...before they eat them all.

If you have just done a clothes wash and have 20 socks that are ready to be put away, ask your child to divide them by two so that you know how many pairs you will need by the end.





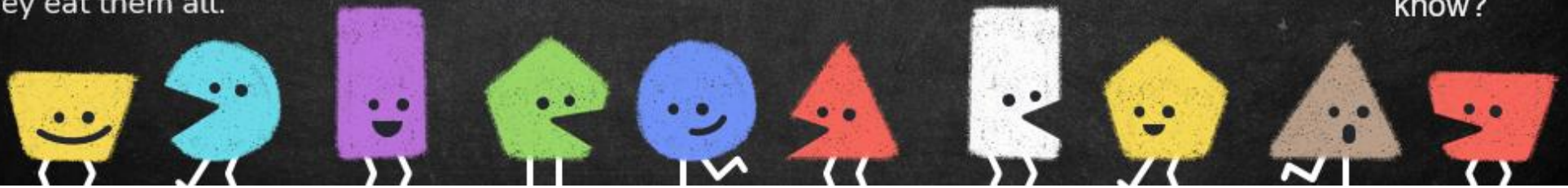
Choose a 2-digit number Ask: 'How many ways can you make this number? Can you make it with groups of 2? 3? 4?' Encourage children to use Lego bricks or similar to build the groups.

Spotting house Numbers Which numbers are in the 2 times table? Which ones are also in the 4 times table?





Little cards, product in the middle, factors in the corners. What is the missing...product or factor? How do you know?



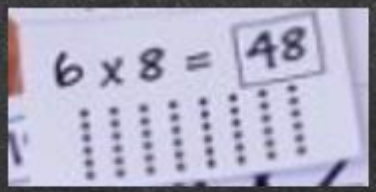
Activities for Home

Pack of playing cards (discount the picture cards)
In pairs, turn over one card each
Multiply them together
Fastest to say the product gets a point!



4 x 2 = 24
6 x 2 = 12
20 x 6 = 120
2 x 6 = 12
12 ÷ 2 = 6
2 x 60 = 120
12 ÷ 6 = 2

If I know....2 x 6 = 12
How many other things can you work out from that fact?



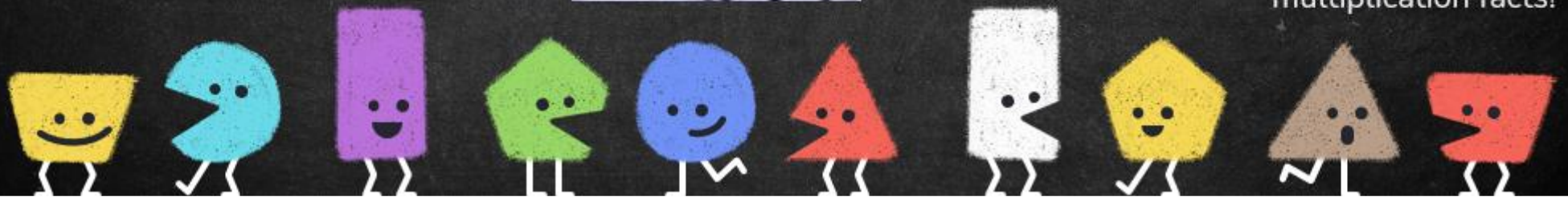
Car registration plate
Multiply the 2 numbers together – what's the product?



Fact of the Day/Week
Write out a times table fact and stick it up around the house.
Leave them up and add to them.



Draw a flower with 2-12 in the middle.
On the 12 petals around the centre record the second factor and the product. It's a creative way of recording multiplication facts!



Why not have a go at these? What time can you complete them in?

x	1	2	3	4	5	6	7	8	9
1									
2									
3									
4									
5									
6									
7									
8									
9									

X	1	2	3	4	5	6	7	8	9	10	11	12
1	●	●	●	●	●	●	●	●	●	●	●	●
2	●	●	●	●	●	●	●	●	●	●	●	●
3	●	●	●	●	●	●	●	●	●	●	●	●
4	●	●	●	●	●	●	●	●	●	●	●	●
5	●	●	●	●	●	●	●	●	●	●	●	●
6	●	●	●	●	●	●	●	●	●	●	●	●
7	●	●	●	●	●	●	●	●	●	●	●	●
8	●	●	●	●	●	●	●	●	●	●	●	●
9	●	●	●	●	●	●	●	●	●	●	●	●
10	●	●	●	●	●	●	●	●	●	●	●	●
11	●	●	●	●	●	●	●	●	●	●	●	●
12	●	●	●	●	●	●	●	●	●	●	●	●

x	12	2	3	5	4	6	8	7	9
2									
5									
6									
7									
9									
3									
4									
12									
8									

x	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
9									
6									
4									
8									
3									
7									
5									
2									
1									

1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

	×21
1	21
2	42
3	
4	84
5	105
6	
7	
8	168
9	
10	210

X	9	6	8	
	54			
			0	
3		18		
2				14

X		7	3	
9	36			
7				70
		42		
8	32			