



# MATHEMATICS



**N.S. Yr. 3 P.35**

**Add or subtract by adjusting  
Use patterns and relationships**

## Equipment

Paper, pencil, ruler

# MathSphere

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## **Concepts**

Children continue to be expected to work out more complex addition and subtraction in their heads.

Adding or subtracting 9 or 11 etc is extended to any three digit number.

Adding 19, 29, 39 etc to any two digit number without crossing the hundred boundary is the next step eg  $37 + 29$ .

Using an addition square is introduced for the first time. This can be very useful for showing the patterns which arise out of addition, rather than using it as a replacement for working out mentally.

More work is also done on the relationship between addition and subtraction and how different number sentences can be written with three numbers eg 13, 15 and 28

$$13 + 15 = 28$$

$$15 + 13 = 28$$

$$28 - 15 = 13$$

$$28 - 13 = 15$$

**Adding 9 to three digit numbers**



Remember how you added 9 to a number by adding ten and then subtracting one?  
These are with hundreds.

1.  $145 + 9 =$

2.  $153 + 9 =$

3.  $168 + 9 =$

4.  $172 + 9 =$

5.  $184 + 9 =$

6.  $196 + 9 =$

7.  $208 + 9 =$

8.  $211 + 9 =$

9.  $222 + 9 =$

10.  $235 + 9 =$

**Adding 9**



Try some more of these – adding nine by adding ten and then subtracting one.

1.  $326 + 9 =$

2.  $334 + 9 =$

3.  $348 + 9 =$

4.  $371 + 9 =$

5.  $385 + 9 =$

6.  $392 + 9 =$

7.  $404 + 9 =$

8.  $417 + 9 =$

9.  $423 + 9 =$

10.  $439 + 9 =$

**Add 11**



Remember how to add eleven?  
Just add ten and then add another  
one.

**Add 11 to these by adding ten and then adding one.**

1.  $506 + 11 =$

2.  $517 + 11 =$

3.  $523 + 11 =$

4.  $531 + 11 =$

5.  $549 + 11 =$

6.  $555 + 11 =$

7.  $562 + 11 =$

8.  $578 + 11 =$

9.  $589 + 11 =$

10.  $590 + 11 =$

**Add 11**



Quick speed challenge here!  
I bet you can do these in no  
time.

**Add 11 to these by adding ten and then adding one.**

1.  $642 + 11 =$

2.  $657 + 11 =$

3.  $665 + 11 =$

4.  $671 + 11 =$

5.  $680 + 11 =$

6.  $693 + 11 =$

7.  $709 + 11 =$

8.  $717 + 11 =$

9.  $728 + 11 =$

10.  $736 + 11 =$

Add 19, 29, 39 etc

Add the whole tens and  
then subtract 1.  
To add 39, add 40 and  
take away 1.



1. 

64	Add 19		67	Add 29	
----	--------	--	----	--------	--
2. 

51	Add 39		28	Add 49	
----	--------	--	----	--------	--
3. 

33	Add 59		17	Add 69	
----	--------	--	----	--------	--
4. 

18	Add 79		72	Add 19	
----	--------	--	----	--------	--
5. 

64	Add 29		51	Add 39	
----	--------	--	----	--------	--
6. 

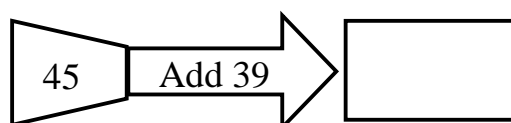
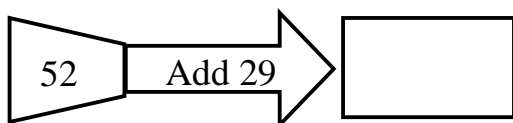
46	Add 49		22	Add 59	
----	--------	--	----	--------	--

**Add 19, 29, 39 etc**

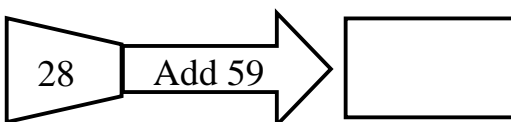
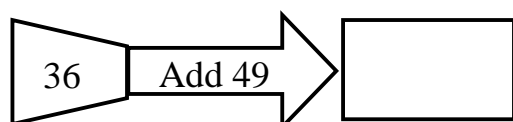
Remember: add the  
whole tens and then  
subtract 1.  
To add 59, add 60 and  
take away 1.



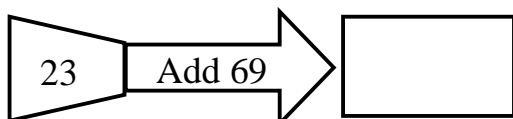
1.



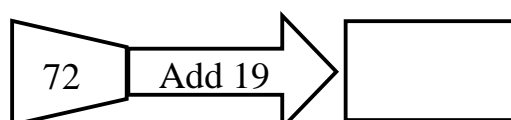
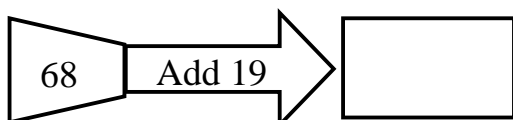
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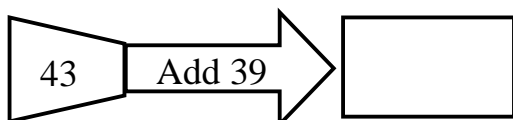
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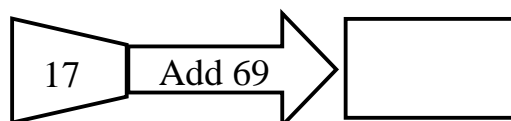
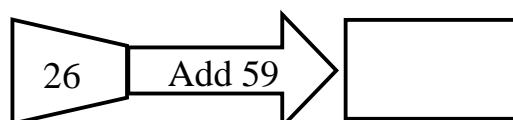
4.



5.



6.





**Add 19, 29, 39 etc**



Remember to add 39, add 40  
and subtract 1.  
Most of these come to more  
than 90.

**Try adding these by adding the next whole ten and subtracting one.**

1.  $67 + 29 =$

2.  $16 + 79 =$

3.  $53 + 39 =$

4.  $21 + 69 =$

5.  $45 + 49 =$

6.  $38 + 59 =$

7.  $28 + 59 =$

8.  $40 + 49 =$

9.  $29 + 69 =$

10.  $52 + 39 =$

11.  $18 + 79 =$

12.  $64 + 29 =$

**Add 19, 29, 39 etc**



Have a go at adding these.  
Remember it is easier than it  
looks.....  
Add the next whole ten then take  
away 1.

**Try adding these by adding the next whole ten and subtracting one.**

1.  $13 + 79 =$

2.  $74 + 19 =$

3.  $22 + 69 =$

4.  $61 + 29 =$

5.  $39 + 59 =$

6.  $57 + 39 =$

7.  $48 + 49 =$

8.  $46 + 49 =$

9.  $55 + 39 =$

10.  $30 + 59 =$

11.  $67 + 29 =$

12.  $12 + 69 =$

Add 21/31/41/etc



When you do these in your head it is better to add the tens on, then add the one.

**Try adding these by adding the next whole ten and then adding one.**

1.  $77 + 21 =$

2.  $64 + 31 =$

3.  $54 + 41 =$

4.  $26 + 41 =$

5.  $28 + 61 =$

6.  $35 + 51 =$

7.  $33 + 41 =$

8.  $49 + 21 =$

9.  $48 + 51 =$

10.  $26 + 71 =$

11.  $61 + 31 =$

12.  $22 + 41 =$

Add 21/31/41/etc



Wow! I bet you are getting really good at these by now – probably quicker than your teacher can do them!

**Try adding these by adding the next whole ten and then adding one.**

1.  $35 + 41 =$

2.  $28 + 51 =$

3.  $23 + 71 =$

4.  $14 + 81 =$

5.  $58 + 31 =$

6.  $38 + 21 =$

7.  $27 + 61 =$

8.  $17 + 71 =$

9.  $60 + 31 =$

10.  $36 + 51 =$

11.  $16 + 81 =$

12.  $29 + 41 =$

Addition patterns

$$\begin{array}{rclcl} 6 & + & 15 & = & 21 \\ 16 & + & 15 & = & 31 \\ 26 & + & 15 & = & 41 \end{array}$$



Can you see the pattern here?  
Try and carry it on by filling in the  
missing numbers below.

$$36 + 15 = \square$$

$$46 + 15 = \square$$

$$\square + 15 = 71$$

$$66 + \square = \square$$

$$\square + \square = \square$$

$$\square + \square = \square$$

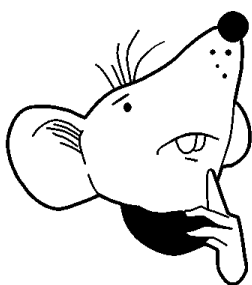
$$\square + \square = \square$$

Addition patterns

$$7 + 16 = 23$$

$$17 + 16 = 33$$

$$27 + 16 = 43$$



Can you see the pattern here?  
Try and carry it on by filling in the  
missing numbers below.

$$37 + 16 = \square$$

$$47 + 16 = \square$$

$$\square + 16 = 73$$

$$67 + \square = \square$$

$$\square + \square = \square$$

$$\square + \square = \square$$

$$\square + \square = \square$$

Subtracting 19/29/39 etc

Can you remember how to subtract 19?

Yes, take 20 and add 1.

To subtract 29, take 30 and add 1.

To subtract 39, take 40 and add 1.

And so on.....

1.  $44 - 29 =$

2.  $52 - 29 =$

3.  $68 - 39 =$

4.  $65 - 39 =$

5.  $76 - 49 =$

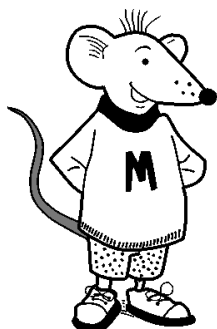
6.  $69 - 49 =$

7.  $82 - 59 =$

8.  $96 - 59 =$

9.  $42 - 29 =$

10.  $51 - 29 =$

**Subtracting 19/29/39 etc**

Can you remember how to subtract 19?

Yes, take 20 and add 1.

To subtract 29, take 30 and add 1.

To subtract 39, take 40 and add 1.

And so on.....

1.  $65 - 19 =$

2.  $82 - 29 =$

3.  $76 - 39 =$

4.  $55 - 49 =$

5.  $46 - 29 =$

6.  $79 - 39 =$

7.  $91 - 59 =$

8.  $77 - 69 =$

9.  $48 - 29 =$

10.  $63 - 39 =$



**Subtract 21/31/41 etc**



Some more subtraction with  
one in the units.  
I hope you can remember how  
to do them.  
Try these:

**Subtract the whole tens and then taking one more.**

1.  $46 - 11 =$

2.  $48 - 21 =$

3.  $54 - 31 =$

4.  $57 - 41 =$

5.  $71 - 51 =$

6.  $88 - 61 =$

7.  $90 - 51 =$

8.  $76 - 41 =$

9.  $58 - 31 =$

10.  $65 - 21 =$

**Subtract 21/31/41 etc.**



These are easier than  
subtracting nines!

**Subtract the whole tens and then taking one more.**

1.  $46 - 21 =$

2.  $48 - 31 =$

3.  $67 - 41 =$

4.  $66 - 51 =$

5.  $70 - 21 =$

6.  $79 - 31 =$

7.  $83 - 41 =$

8.  $85 - 51 =$

9.  $92 - 61 =$

10.  $99 - 71 =$

### Mixed subtraction

These are a mixture of  
sums. You will need to  
concentrate hard!!  
Good luck!



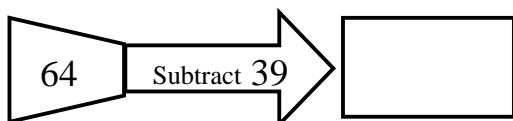
- |    |                                       |                                       |
|----|---------------------------------------|---------------------------------------|
| 1. | <div>55</div> Subtract 29 <div></div> | <div>72</div> Subtract 31 <div></div> |
| 2. | <div>87</div> Subtract 41 <div></div> | <div>93</div> Subtract 39 <div></div> |
| 3. | <div>91</div> Subtract 79 <div></div> | <div>45</div> Subtract 21 <div></div> |
| 4. | <div>63</div> Subtract 51 <div></div> | <div>77</div> Subtract 29 <div></div> |
| 5. | <div>88</div> Subtract 49 <div></div> | <div>92</div> Subtract 61 <div></div> |
| 6. | <div>40</div> Subtract 21 <div></div> | <div>60</div> Subtract 39 <div></div> |

### Mixed subtraction

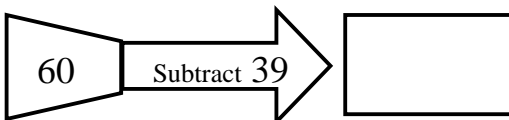
Put the answers to these  
in the boxes.  
Make sure you do the  
correct sum!



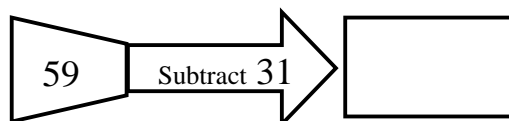
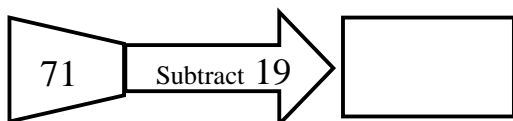
1.



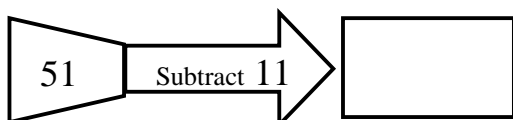
2.



3.



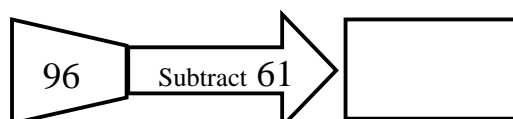
4.



5.

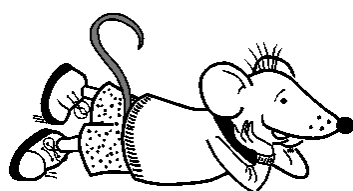


6.



### Using an addition table

+	1	2	3	4	5
1	2	3	4	5	6
2	3	4	5	6	7
3	4	5	6	7	8
4	5	6	7	8	9
5	6	7	8	9	10

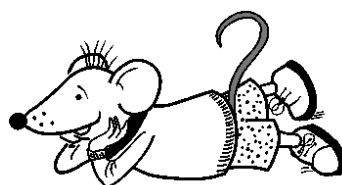


This is like a calculator – it tells you the answers to simple addition sums.

Can you see how it works?  
Ask your teacher if you can't.

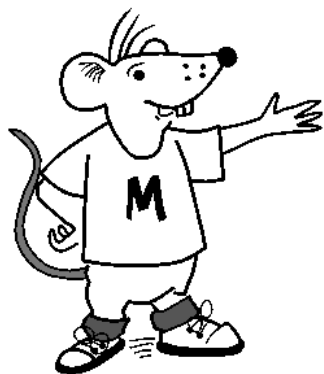
What patterns can you find in the addition table?

There are lots.  
Colour to show them.



**Using an addition table**

+	1	2	3	4	5	6	7
1	2		4		6		8
2	3	4		6		8	
3		5	6		8		10
4			7		9		11
5		7		9		11	
6		8			11		13
7	8	9	10	11	12	13	14



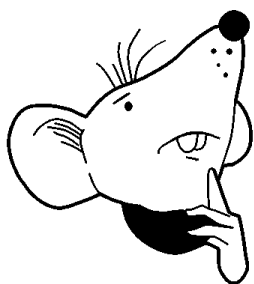
Here is a number table but  
with some missing numbers.

Can you fill in the missing  
numbers?

**Have you noticed anything about the diagonal lines on the table?**

Addition patterns

$$\begin{array}{rclcl} 5 & + & 6 & = & 11 \\ 50 & + & 60 & = & 110 \\ 500 & + & 600 & = & 1100 \end{array}$$



Can you see the pattern here?  
Try and fill in the missing  
numbers in the patterns below:

Pattern one

$$\begin{array}{rclcl} 3 & + & 8 & = & 11 \\ 30 & + & \boxed{\phantom{00}} & = & 110 \\ \boxed{\phantom{00}} & + & 800 & = & \boxed{\phantom{00}} \end{array}$$

Pattern two

$$\begin{array}{rclcl} 6 & + & 7 & = & 13 \\ \boxed{\phantom{00}} & + & \boxed{\phantom{00}} & = & 130 \\ \boxed{\phantom{00}} & + & 700 & = & \boxed{\phantom{00}} \end{array}$$

Addition patterns

$$\begin{array}{rclcl} 4 & + & 9 & = & 13 \\ 40 & + & 90 & = & 130 \\ 400 & + & 900 & = & 1300 \end{array}$$



Can you see the pattern here?  
Try and fill in the missing  
numbers in the patterns below:

Pattern one

$$\begin{array}{rclcl} 5 & + & 8 & = & 13 \\ 50 & + & \boxed{\phantom{00}} & = & 130 \\ \boxed{\phantom{00}} & + & 800 & = & \boxed{\phantom{00}} \end{array}$$

Pattern two

$$\begin{array}{rclcl} 7 & + & 9 & = & 16 \\ \boxed{\phantom{00}} & + & \boxed{\phantom{00}} & = & 160 \\ \boxed{\phantom{00}} & + & 900 & = & \boxed{\phantom{00}} \end{array}$$



**Making number sentences**

If I have the numbers 11, 15 and 26, I can make four different sums, or sentences with them.

Here goes:

$$11 + 15 = 26$$

$$26 - 11 = 15$$

$$15 + 11 = 26$$

$$26 - 15 = 11$$

Make four number sentences with **13, 16 and 29**

$$\square + \square = \square$$

$$\square + \square = \square$$

$$\square - \square = \square$$

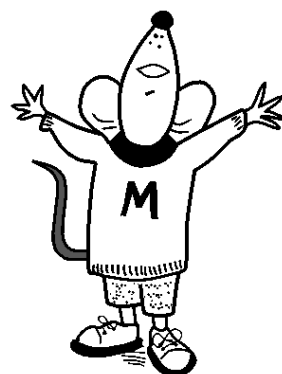
$$\square - \square = \square$$

Remember:  
Only use

13

16

29



### **Making number sentences**



If I have the numbers 4, 6 and 10, I can make four different sums, or sentences with them.

Here goes:

$$14 + 16 = 30$$

$$16 + 14 = 30$$

$$30 - 14 = 16$$

$$30 - 16 = 14$$

Make four number sentences with **12, 18 and 30**

Sentence 1:

Sentence 2:

Sentence 3:

Sentence 4:

Now make four number sentences with **15, 17 and 32**

Sentence 1:

Sentence 2:

Sentence 3:

Sentence 4:

Now make four number sentences with **16, 18 and 34**

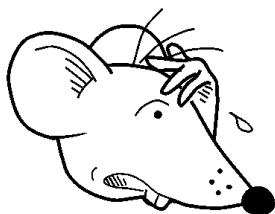
Sentence 1:

Sentence 2:

Sentence 3:

Sentence 4:

**Investigate making sums**



And they call this fun!  
Actually I do like it, but  
don't tell anyone!

16

18

32

34

50



Using only the numbers  
above, how many  
addition and subtraction  
sums can you make?  
You must include the  
answer from one of  
these numbers.

Write them all down  
and check your results  
with a calculator.

**Answers****Page 3****1. 154   2. 162   3. 177   4. 181   5. 193   6. 205   7. 217   8. 220   9. 231   10. 244****Page 4****1. 335   2. 343   3. 357   4. 380   5. 394   6. 401   7. 413   8. 426   9. 432   10. 448****Page 5****1. 517   2. 528   3. 534   4. 542   5. 560   6. 566   7. 573   8. 589   9. 600   10. 601****Page 6****1. 653   2. 668   3. 676   4. 682   5. 691   6. 704   7. 720   8. 728   9. 739   10. 747****Page 7****1. 83 and 96   2. 90 and 77   3. 92 and 86   4. 97 and 91   5. 93 and 90   6. 95 and 81****Page 8****1. 81 and 84   2. 85 and 87   3. 92 and 93   4. 87 and 91   5. 82 and 84   6. 85 and 86****Page 9****1. 96   2. 95   3. 92   4. 90   5. 94   6. 97   7. 87   8. 89   9. 98   10. 91   11. 97   12. 93****Page 10****1. 92   2. 93   3. 91   4. 90   5. 98   6. 96   7. 97   8. 95   9. 94   10. 89   11. 96   12. 81****Page 11****1. 98   2. 95   3. 95   4. 67   5. 89   6. 86   7. 74   8. 70   9. 99   10. 97   11. 92   12. 63****Page 12****1. 76   2. 79   3. 94   4. 95   5. 89   6. 59   7. 88   8. 88   9. 91   10. 87   11. 97   12. 70****Page 13**

$36 + 15 = 51$	$46 + 15 = 61$	$56 + 15 = 71$	$66 + 15 = 81$
$76 + 15 = 91$	$86 + 15 = 101$	$96 + 15 = 111$	

**Page 14**

$37 + 16 = 53$	$47 + 16 = 63$	$57 + 16 = 73$	$67 + 16 = 83$
$77 + 16 = 93$	$87 + 16 = 103$	$97 + 16 = 113$	

**Answers****Page 15****1. 15    2. 23    3. 29    4. 26    5. 27    6. 20    7. 23    8. 37    9. 13    10. 22****Page 16****1. 46    2. 53    3. 37    4. 6    5. 17    6. 40    7. 32    8. 8    9. 19    10. 24****Page 17****1. 35    2. 27    3. 23    4. 16    5. 20    6. 27    7. 39    8. 35    9. 27    10. 44****Page 18****1. 25    2. 17    3. 26    4. 15    5. 49    6. 48    7. 42    8. 34    9. 31    10. 28****Page 19****1. 26 and 41    2. 46 and 54    3. 12 and 24    4. 12 and 48    5. 39 and 31    6. 19 and 21****Page 20****1. 25 and 45    2. 29 and 21    3. 52 and 28    4. 40 and 17    5. 3 and 34    6. 35 and 55****Page 23****3 + 8 = 11            30 + 80 = 110            300 + 800 = 1 100  
6 + 7 = 13            60 + 70 = 130            600 + 700 = 1 300****Page 24****5 + 8 = 13            50 + 80 = 130            500 + 800 = 1 300  
7 + 9 = 16            70 + 90 = 160            700 + 900 = 1 600****Page 25****13 + 16 = 29            16 + 13 = 29            29 - 16 = 13            29 - 13 = 16****Page 26****12 + 18 = 30            18 + 12 = 30            30 - 12 = 18            30 - 18 = 12  
15 + 17 = 32            17 + 15 = 32            32 - 15 = 17            32 - 17 = 15  
16 + 18 = 34            18 + 16 = 34            34 - 16 = 18            34 - 18 = 16****Page 27****16 + 18 = 34            18 + 16 = 34            34 - 16 = 18            34 - 18 = 16  
16 + 16 = 32            32 - 16 = 16  
16 + 34 = 50            34 + 16 = 50            50 - 16 = 34            50 - 34 = 16  
18 + 32 = 50            32 + 18 = 50            50 - 18 = 32            50 - 32 = 18**