




1	<p>Place 5 odd and 5 even numbers in the diagram below.</p> <table><tr><td></td><td>Not cubed</td><td>Cubed</td></tr><tr><td>Over 100</td><td></td><td></td></tr><tr><td>100 or less</td><td></td><td></td></tr></table> <p>Put at least one number in each section.</p>		Not cubed	Cubed	Over 100			100 or less			<p>There is more than one possibility for each cell.</p> <p>My suggestion is to write down the cubed numbers first ...</p> <p>$1^3 = 1 \times 1 \times 1 = 1$</p> <p>$2^3 = 2 \times 2 \times 2 = 8$</p>																											
	Not cubed	Cubed																																				
Over 100																																						
100 or less																																						
2	<p>This table shows squared and cubed numbers. Complete the table. Explain the relationships you can see between the numbers.</p> <table><tr><td></td><td>3 x 3</td><td></td><td>3³</td><td></td><td>27</td></tr><tr><td></td><td></td><td>25</td><td>5³</td><td></td><td></td></tr><tr><td>6²</td><td></td><td></td><td></td><td>6 x 6 x 6</td><td></td></tr><tr><td></td><td>4 x 4</td><td></td><td>4³</td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td>8</td></tr><tr><td>9²</td><td></td><td></td><td></td><td></td><td></td></tr></table>		3 x 3		3 ³		27			25	5 ³			6 ²				6 x 6 x 6			4 x 4		4 ³								8	9 ²						<p>Have a look at the square and the cube numbers.</p> <p>I'm happy to explain this verbally – and if no-one is listening or is there to listen to your explanation, at least think about it.</p>
	3 x 3		3 ³		27																																	
		25	5 ³																																			
6 ²				6 x 6 x 6																																		
	4 x 4		4 ³																																			
					8																																	
9 ²																																						
3	<p>A and B stand for two different whole numbers.</p> <p>A + A + A + B + B = 30</p> <p>What could be the values of A and B?</p>	<p>minimum:</p> <p>Come up with two solutions.</p>																																				
4	<p>p and q stand for two numbers p + q = 1000.</p> <p>p is 150 greater than q.</p> <p>Calculate the values of p and q.</p>	<p>Tip: Find the number that lies halfway between 1000. In order for one number to be 150 greater than the other, it would have to be removed by half of that from the halfway point ...</p>																																				
5	<p>Each missing digit in this sum is a 9 or a 1</p> <p>Write in the missing digits.</p> <p> <table><tr><td></td><td></td></tr></table> + <table><tr><td></td><td></td></tr></table> + <table><tr><td></td><td></td></tr></table> = 201</p>							<p>A bit of reasoning and then double-checking.</p>																														
6	<p>Here is a number sentence.</p> <p><table><tr><td>?</td></tr></table> + 27 > 85</p> <p>Circle all the numbers below that make the number sentence correct.</p> <p> 30 40 50 60 70</p>	?																																				
?																																						
7	<p>Here are some digit cards.</p> <p><table><tr><td>2</td><td>4</td><td>6</td><td>6</td></tr></table></p> <p>Write all the three-digit numbers, greater than 500, that can be made using these cards.</p> <p>One has been done for you.</p> <p> 626</p>	2	4	6	6	<p>Work systematically.</p>																																
2	4	6	6																																			

Answers
on the next
page

Place 5 odd and 5 even numbers in the diagram below.

	Not cubed	Cubed
Over 100		
100 or less		

Possible cube numbers to use:
8, 27, 64, 125, 216,
343, 512, 729, 1,000

Put at least one number in each section.

This table shows squared and cubed numbers. Complete the table. Explain the relationships you can see between the numbers.

	3 x 3		3 ³		27
		25	5 ³		
6 ²				6 x 6 x 6	
	4 x 4		4 ³		
					8
9 ²					

A and B stand for two different whole numbers.
 $A + A + A + B + B = 30$
What could be the values of A and B?

The sum of $B + B$ will always be even. Therefore, A has to be an even number because if A was odd, $A + A + A$ would be odd.

Possible answers:
 $A = 2 \quad B = 12$
 $A = 4 \quad B = 9$
 $A = 6 \quad B = 6$
 $A = 8 \quad B = 3$
 $A = 10 \quad B = 0$

Each missing digit in this sum is a 9 or a 1

Write in the missing digits.

 + + = 201


Your number sentence has to include these numbers:

99 11 91

Here is a number sentence.

? + 27 > 85

Circle **all** the numbers below that make the number sentence correct.

 30 40 50 60 70

You should have selected 60 and 70.
If you haven't, I'll come and find you and tell you in person.

Here are some digit cards.

2 4 6 6

Write **all** the **three-digit** numbers, **greater than 500**, that can be made using these cards.

One has been done for you.



626

624
642
646
662
664

p and q stand for two numbers $p + q = 1000$.
p is 150 greater than q.
Calculate the values of p and q.

425 and 575