

# Let's Crack the Code

## Part 1










You are safe at home and it is your birthday. You hear the doorbell ringing. It is a delivery man and he has a special package for you. Taking all necessary precautions you collect the package and open it up. It is a chest sent to you by your uncle who lives abroad as a birthday present. But this chest is locked! It is locked with a padlock. On top of the chest you find an envelope with a note in it from your uncle. He informs you that in order to open the padlock you need to solve the 5 Maths challenges found in the envelope.

Are you ready for this challenge?

Today you will solve 3 challenges, thus finding out the first 3 digits to open the padlock. More challenges will follow tomorrow.

Enjoy 😊

### Challenge 1

								
5	7	2	8	9	1	4	6	3

Change each picture to its corresponding number.

Are these calculations Correct (✓) or Incorrect (X)?

$$\text{masquerade masks} \div \text{candles} = \text{cupcake} = \text{balloons}$$

$$\text{gift boxes} - \text{balloons} - \text{cupcake} - \text{confetti} = \text{masquerade masks} + \text{cake}$$

$$\text{cake} < \text{cake}$$

$$\text{candles} = \text{cupcake}$$

$$\text{gift boxes} + \text{party hats} + \text{candles} + \text{party hats} = \text{confetti} + \text{party hats}$$

Count the number of INCORRECT calculations.

This is your first digit to open the padlock



### Challenge 2



Use the code breaker to reveal a mystery number in words.

A	B	C	D	E	F	G	H	I	J	K	L	M
3	78	95	8	60	55	1	10	5	25	29	18	4

N	O	P	Q	R	S	T	U	V	W	X	Y	Z
24	19	100	11	200	14	50	9	0	12	6	21	1700

	Answer	Letter
50c + 50 c	€	
Half a metre in centimetres	cm	
minutes in 1 hour	minutes	
20c coins in €1	coins	
1 centimetre in millimetres	mm	


Rearrange the letters to form this number.

This number is your second number to open the padlock.




### Challenge 3

Find the numbers the birthday cake is hiding.

4		12	16	20	24	28	32
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48	44	40	36		28	24	20
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80	72		56	48	40	32	24
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16	20	24	28		36	40	44
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8	16	24		40	48	56	64
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Which **birthday cake number** occurs the most?

Find the **digit sum** of this number.

*(Hint – To find the digit sum you need to add the digits which make up the number. Example the digit sum of 16 ( $1 + 6 = 7$ ), 7 is the digit sum of the number 16)*

This is the **third digit** you need to unlock the padlock.