

Year 6 Maths
Open evening
activities.

Code Breaking...

Alan Turing

Alan Turing was a British mathematician. He made major contributions to the fields of mathematics, computer science, and artificial intelligence. He worked for the British government during World War II, when he succeeded in breaking the secret code Germany used to communicate.



In September 1939 Great Britain went to war against Germany. During the war, Turing worked at the Government Code and Cypher School at Bletchley Park. Turing and others designed a code-breaking machine known as the Bombe. They used the Bombe to learn German military secrets. By early 1942 the code breakers at Bletchley Park were decoding about 39,000 messages a month. At the end of the war, Turing was made an Officer of the most Excellent Order of the British Empire.

A	B	C	D	E	F	G	H	I	J	K	L	M
55	47	84	10	9	75	59	64	32	15	23	50	26
N	O	P	Q	R	S	T	U	V	W	X	Y	Z
80	63	19	3	27	30	21	92	18	35	99	69	19 9

Decode the message by completing the calculations:

- 8 x 8, 50 – 41, 25 x 2, half of 100, 9 x 7
- 23 x 3, 3 squared, 11 x 5, 54 ÷ 2,
- 5 x 6, 15 x 2 + 2, 100 – 1
- 25 + 10, 10 – 1, 10 x 5, 90 – 6, 100 – 37, double 13, 2 x 4 + 1
- 3 x 7, 3 x 20 + 3
- 8 + 1, double 42, 25 – 2, 16 x 2, 40 x 2, 50 + 9, 7 x 3, 65 – 2, 80 ÷ 1
- Double 15, 90 – 2 x 3, 8 squared, 70 – 7, 21 x 3, ¼ of 200

Can you make up some calculations to spell out your name using the same code breaker grid?

Can you make up your own message for a friend or parent/carers to decode?

Key Skills...

This is an example of one of the types of homework that you will get. It's a review of skills covered in the previous school year.

Question 1 Write in figures one hundred and seventy four thousand, eight hundred and six	Question 2 Write in figures eight five thousand and sixty four	Question 3 Round 5061 to the nearest 10	Question 4 Round 492 to the nearest 10
Question 5 Find the missing numbers ?, -3, -2, ?, 0,....	Question 6 Find the missing numbers ?, 0, -1, ?, -3,....	Question 7 Express 0.1 as a fraction	Question 8 Express 0.72 as a fraction
Question 9 Work out 707 + 262 =	Question 10 Work out 2689 + 1526 =	Question 11 What is the 13th multiple of 13?	Question 12 What is the 14th multiple of 11?
Question 13 Work out 52 × 9 =	Question 14 Work out 333 × 7 =	Question 15 Complete 40 mm = cm	Question 16 Complete 22 cm = mm
Question 17 Complete 10 hours = minutes	Question 18 Complete 480 minutes = hours	Question 19 Simplify $\frac{4}{28} = \frac{\square}{\square}$	Question 20 Complete the equivalent fraction $\frac{3}{5} = \frac{\square}{45}$

SKILLS CHECK

Score

www.mathsbox

Fibonacci was an Italian man who studied math and theories back in the 11th century. He discovered a pattern called the Fibonacci sequence. It's a series of numbers that starts with 0 and 1, and each number after is found by adding the two previous numbers (0, 1, 1, 2, 3, 5...) The sequence just keeps going on and on.

Can you find the first 10 numbers in the sequence?

Find my number.

Use the clues below to find my number.

(Hint: Digital sum means the digits add up to this value.

Eg in 17 the digital sum = 8 since $1 + 7 = 8$)

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

Guess my number 1

The number is a
multiple of 3

ATM

Guess my number 1

The digital sum is 6

ATM

Guess my number 1

Find the number
between 1 and 99

ATM

Guess my number 1

It is more than 5 squared

ATM

Guess my number 1

One of the digits is a 2

ATM

Guess my number 1

It is less than 55

ATM

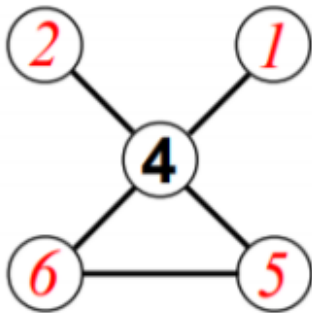
Guess my number 1

It is not a square number

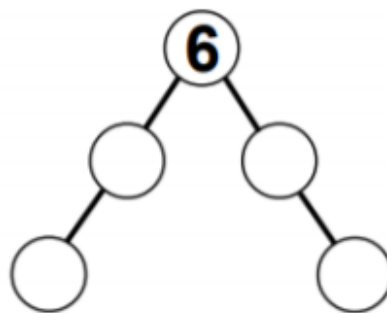
ATM

Total Lines.

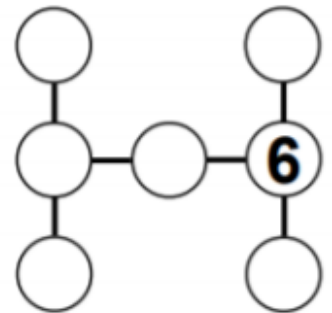
Numbers have to be placed in the empty circles. The numbers to be used are listed under each diagram and no given number may be used twice. The object is to place the numbers so that all those which lie along a straight line, as shown by the lines drawn, add up to the total which is also given under the diagram. The first one has been done for you.



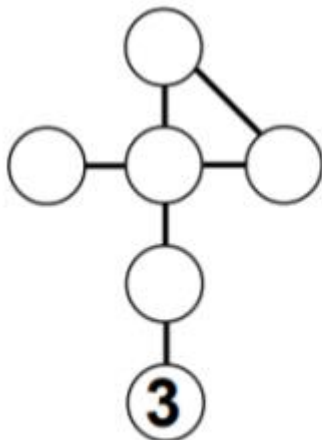
Use 1, 2, 5, 6
Total 11



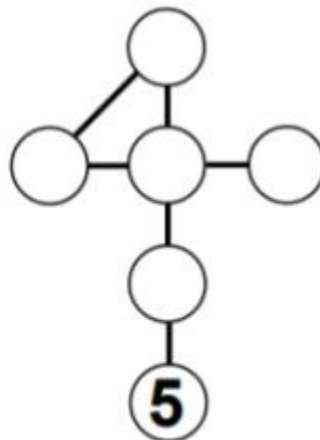
Use 2, 3, 4, 5
Total 13



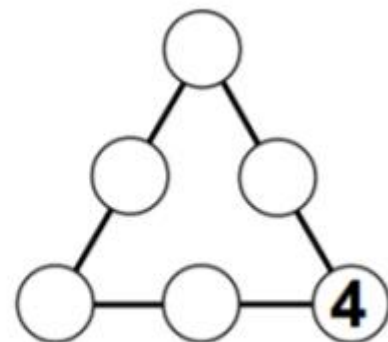
Use 0, 1, 2, 3, 4, 5
Total 10



Use 1, 2, 4, 5, 6
Total 11

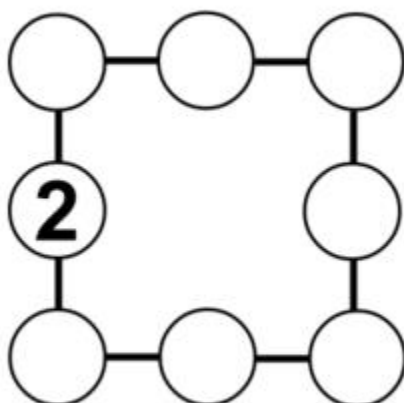


Use 0, 1, 3, 4, 6
Total 10

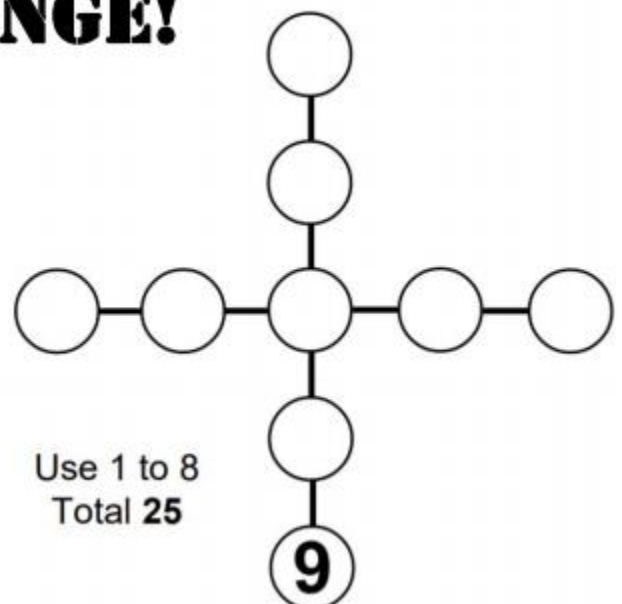


Use 0, 1, 2, 3, 5
Total 9

CHALLENGE!



Use 3, 4, 5, 6, 7, 8, 9
Total 18



Use 1 to 8
Total 25

Cross Number...

Use the questions below to complete the cross number.

1		2		3			4
		5	6				
7	8				9		
	10			11			
12			13			14	
15						16	17
			18		19		
20					21		

Clues Across

1:	191 x 2
3:	1327 + 2404
5:	50% of 480
7:	6 x 7
9:	424 divided by 4
10:	1986 + 2971
13:	A quarter of 5056
15:	41 x 5
16:	75% of 76
18:	953 - 547
20:	1273 + 2358
21:	1856 divided by 8

Clues Down

1:	20% of 1770
2:	Square root of 484
3:	Three-quarters of 40
4:	4722 - 2856
6:	1872 + 2879
8:	264 divided by 11
11:	4035 + 3245
12:	One third of 3699
14:	75% of 60
17:	1453 - 741
18:	First prime number after 40
19:	Half of 124

SOME ANSWERS

Code breaking.

Hello year six welcome to Eckington School

Key skills 1.

- 1) 174806 2) 85064 3) 5060 4) 490
5) -4, -1 6) 1, -2 7) $1/10$ 8) $72/100$
9) 969 10) 4215 11) 169 12) 154
13) 468 14) 2331 15) 4cm 16) 220mm
17) 600min 18) 8hrs 19) $1/7$ 20) $27/45$

Find my number.

42

Total lines.

