THIRD SPACE LEARNING

Escape Room

Escape From The School

Year 6

Escape From The School

The school has been locked up with you still inside!

You realise you're trapped in your classroom but as you look around, you can see there's a 6 digit code pad on the door.
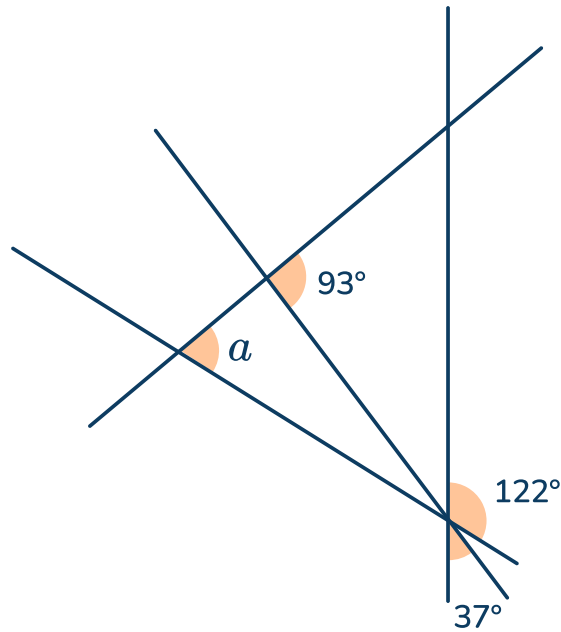
Around the room there are 6 clues, each related to a different digit of the code. Perhaps, if you can solve each clue, you can get out of the room before dinner.

Fill in the boxes below with the final code.

1st	2nd	3rd	4th	5th	6th

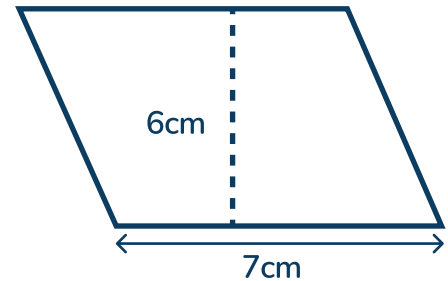# Escape from the school - Clue 1

Find the value of a .

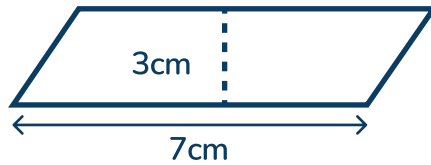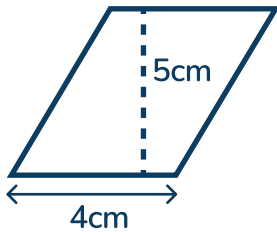**Digit of the code:**

Angle a = _____°, the digit in the tens column is the first digit in the code.

Escape from the school - Clue 2

Find the area of these shapes.
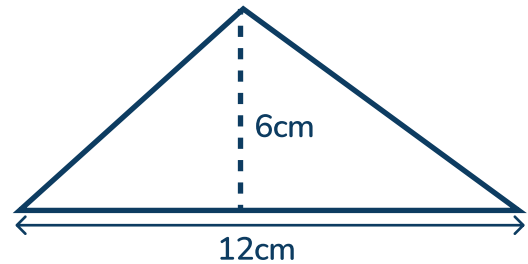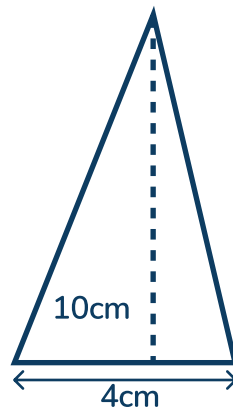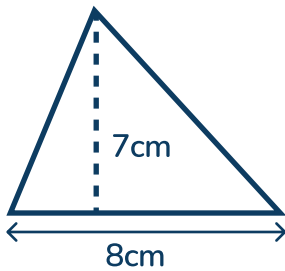
Digit of the code:

The second digit to the code is the number of shapes that have an area greater than 24cm².

Escape from the school - Clue 3

Look at each statement and identify if it is true or false.

Statement	True	False
In 8.954 the digit 5 is worth 5 hundreds.		
In 24.671 the digit 1 is worth 0.001		
In 458.204 the digit 2 is worth 2 tenths.		
In 27.619 the digit 6 is worth 6 hundredths.		
In 54.287 the digit 8 is worth 0.08		
In 32.894 the digit 8 is worth 8 ones.		
In 346.806 the digit 6 is worth 0.06		
In 3.225 the digit 5 is worth 5 thousandths.		
In 43.218 the digit 2 is worth 0.2		

Digit of the code:

If there are more true statements, the third digit of the code is 1. If there are more false statements, the third digit of the code is 0.

Look at this equation. $3a + 3 = b$, a and b are both whole numbers greater than 0 and less than 28. Write all the possible values for a and b.

a	b

Digit of the code:

The fourth digit of the code is the largest possible odd value for a.

Escape from the school - Clue 5

Solve each question, then use the key to fill in the statement below. Letters can be used more than once.

1 $-6 + 6 =$ _____

2 $-2 + 6 =$ _____

3 $-3 + 5 =$ _____

4 $8 - 13 =$ _____

5 $-9 + 11 =$ _____

6 $-8 + 13 =$ _____

7 $-1 + 3 =$ _____

8 $-6 + 10 =$ _____

9 $9 - 18 =$ _____

10 $8 - 8 =$ _____

11 $-4 + 4 =$ _____

12 $1 - 1 =$ _____

13 $-4 + 6 =$ _____

14 $-12 + 9 =$ _____

15 $-5 + 11 =$ _____

16 $-1 - 7 =$ _____

17 $-2 + 7 =$ _____

18 $0 - 4 =$ _____

a	b	c	d	e	f	g	h	i	j	k	l	m
−1	8	7	−3	−9	4	−4	5	2	11	13	−6	−11
n	o	p	q	r	s	t	u	v	w	x	y	z
3	6	−10	−12	−7	−5	0	1	12	−8	−2	9	10

_____ _____ _____   _____ _____ _____ _____ _____   _____ _____ _____ _____ _____   _____ _____   _____ _____ _____

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

Digit of the code:

The completed sentence above will give you another digit of the code.

Escape from the school - Clue 6

Solve these calculations, give your answer in the simplest form.

Question:	Answer:
$\dfrac{1}{2} \times \dfrac{1}{4} =$	
$\dfrac{1}{4} \times \dfrac{1}{5} =$	
$\dfrac{1}{6} \times \dfrac{1}{3} =$	
$\dfrac{1}{2} \times \dfrac{1}{3} =$	
$\dfrac{1}{6} \times \dfrac{1}{4} =$	
$\dfrac{2}{3} \times \dfrac{1}{4} =$	
$\dfrac{2}{3} \times \dfrac{1}{3} =$	
$\dfrac{3}{4} \times \dfrac{1}{3} =$	
$\dfrac{1}{2} \times \dfrac{1}{10} =$	
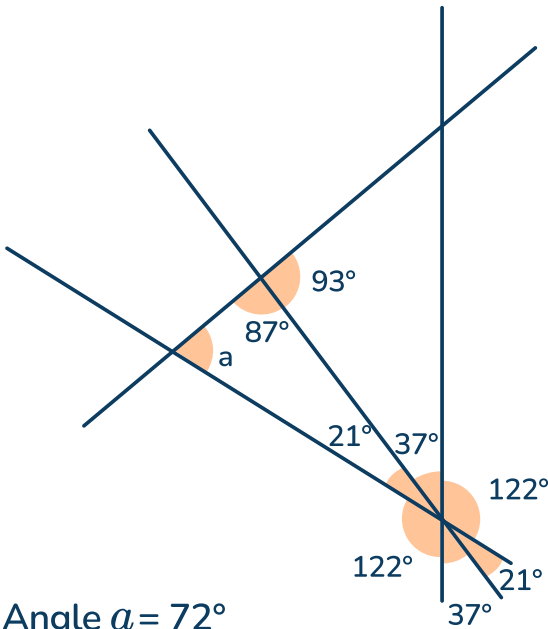
Digit of the code:

If there are more answers with a denominator greater than 10, the sixth digit of the code is 5.

If there are more answers with a denominator that is 10 or less, the sixth digit of the code is 6.

Escape from the school - Answers

There are various ways to present this task to pupils. You could place the clues around the room with the code on the door. Pupils could then work in small groups to solve the clues (they can be solved in any order) to try to escape from the classroom. Alternatively, you could present each small group or pair with a back of resources to work through.

Clue number	Question	Answer
1	Find the value of a.	 Angle a = 72° The first digit is 7.
2	Find the area of these shapes.	5cm x 4cm = 20cm² 3cm x 7cm = 21cm² 6cm x 7cm = 42cm² 7cm x 8cm ÷ 2 = 28cm² 10cm x 4cm ÷ 2 = 20cm² 6cm x 12cm ÷ 2 = 36cm² The second digit is 3.

Escape from the school - Answers

Clue number	Question	Answer
3	Look at each statement and identify if it is true or false.	

Statement	True	False
In 8.954 the digit 5 is worth 5 hundreds.		X
In 24.671 the digit 1 is worth 0.001	X	
In 458.204 the digit 2 is worth 2 tenths.	X	
In 27.619 the digit 6 is worth 6 hundredths.		X
In 54.287 the digit 8 is worth 0.08	X	
In 32.894 the digit 8 is worth 8 ones.		X
In 346.806 the digit 6 is worth 0.06		X
In 3.225 the digit 5 is worth 5 thousandths.	X	
In 43.218 the digit 2 is worth 0.2	X	

The third digit is 1.

Clue number	Question	Answer
4	Look at this equation. $3a + 3 = b$, a and b are both whole numbers greater than 0 and less than 28. Write all the possible values for a and b.	

a	b
1	6
2	9
3	12
4	15
5	18
6	21
7	24
8	27

The fourth digit is 7.

Clue number	Question	Answer
5	Solve each question below. Then use the key to fill in the statement below. Letters can be used more than once.	

1. $6 + 6 = 0$
2. $-2 + 6 = 4$
3. $-3 + 5 = 2$
4. $8 - 13 = -5$
5. $-9 + 11 = 2$
6. $-8 + 13 = 5$
7. $-1 + 3 = 2$
8. $-6 + 10 = 4$
9. $9 - 18 = -9$
10. $8 - 8 = 0$
11. $-4 + 4 = 0$
12. $1 - 1 = 0$
13. $-4 + 6 = 2$
14. $-12 + 9 = -3$
15. $-5 + 11 = 6$
16. $-1 - 7 = -8$
17. $-2 + 7 = 5$
18. $0 - 4 = -4$

The fifth digit is two.

Escape from the school - Answers

Clue number	Question	Answer
6	Solve these calculations, give your answer in the simplest form.	

Question:	Answer:
$\dfrac{1}{2} \times \dfrac{1}{4} =$	$\dfrac{1}{8}$
$\dfrac{1}{4} \times \dfrac{1}{5} =$	$\dfrac{1}{20}$
$\dfrac{1}{6} \times \dfrac{1}{3} =$	$\dfrac{1}{18}$
$\dfrac{1}{2} \times \dfrac{1}{3} =$	$\dfrac{1}{6}$
$\dfrac{1}{6} \times \dfrac{1}{4} =$	$\dfrac{1}{24}$
$\dfrac{2}{3} \times \dfrac{1}{4} =$	$\dfrac{1}{6}$
$\dfrac{2}{3} \times \dfrac{1}{3} =$	$\dfrac{2}{9}$
$\dfrac{3}{4} \times \dfrac{1}{3} =$	$\dfrac{1}{4}$
$\dfrac{1}{2} \times \dfrac{1}{10} =$	$\dfrac{1}{20}$

The sixth digit is 6.

1st	2nd	3rd	4th	5th	6th
7	3	1	7	2	6