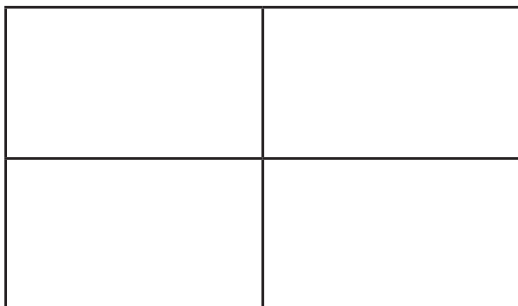
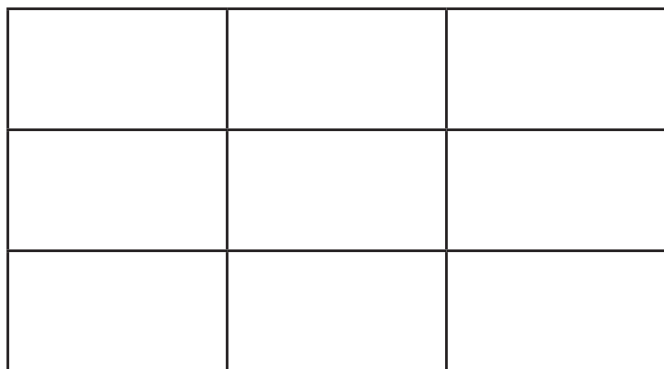


## Escape the Room      Answers for Digit 1

There are 9 rectangles (including squares) in this  $2 \times 2$  grid.



How many rectangles (including squares) are there in this  $3 \times 3$  grid?



Add together the digits of this answer to give you the first digit of the keypad code.

**36 rectangles (including squares)**

$$3 + 6 = \mathbf{9}$$

## Escape the Room      Answers for Digit 2

Discover the smallest square number that can be written using five different Roman numerals.

Symbol	Value
I	1
V	5
X	10
L	50
C	100
D	500
M	1000

Divide this number by 24 to discover the second digit of the keypad code.

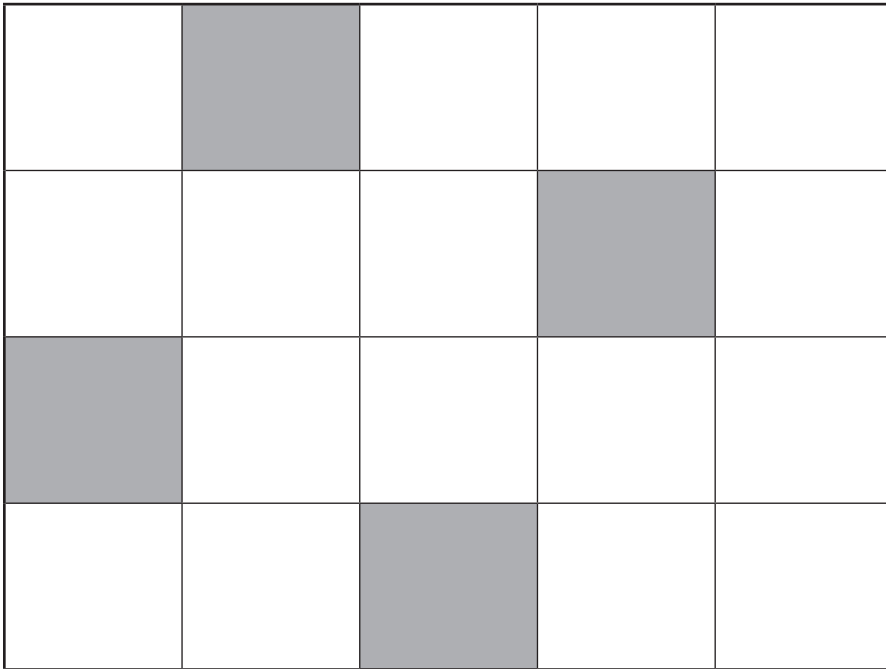
$$\mathbf{CXLIV} = 144$$

$$144 \div 24 = \mathbf{6}$$

## Escape the Room

## Answers for Digit 3

How many more squares need to be shaded in so that  $\frac{3}{4}$  of the grid is shaded?



Add together the digits of this answer to give you the third digit of the keypad code.

11

$$1 + 1 = \mathbf{2}$$

## Escape the Room

## Answers for Digit 4

Use the clues to calculate the mystery number.

- Rounded to the nearest ten, the number is 61 460.
- The number is divisible by 4.
- The digit sum is even.

What is the number?

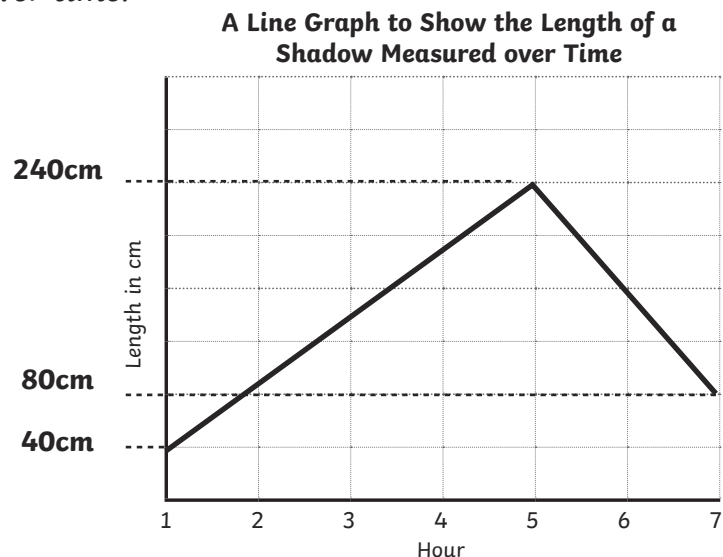
Add together the digits of the mystery number to give you the fourth digit of the keypad code.

$$61456 \quad 6 + 1 + 4 + 5 + 6 = 22$$

$$2 + 2 = \mathbf{4}$$

## Escape the Room      Answers for Digit 5

Here is a line graph showing the length of a shadow measured over time.



- At its shortest length, the shadow measured 40cm.
- At its longest length, the shadow measured 240cm.
- What was the length of the shadow at hour 7?

The tens digit of this answer will give you the fifth digit of the keypad code.

**80cm**

**8**

## Escape the Room      Answers for Digit 6

Work out the rule for each number sequence and find the next five numbers in each sequence.

1.	1250	1350	<b>1450</b>	<b>1550</b>	<b>1650</b>	<b>1750</b>	<b>1850</b>
2.	6750	5750	<b>4750</b>	<b>3750</b>	<b>2750</b>	<b>1750</b>	<b>750</b>
3.	1810	1800	<b>1790</b>	<b>1780</b>	<b>1770</b>	<b>1760</b>	<b>1750</b>

Which number is common to each of the number sequences?

Add together the digits of this answer to give you the sixth digit of the keypad code.

$$1750 \quad 1 + 7 + 5 + 0 = 13$$

$$1 + 3 = 4$$

## Escape the Room      Answers for Digit 7

Use the clues to calculate the mystery two-digit number that is less than 50.

- It is one more than a prime number.
- The sum of its digits is a square number.

Add together the digits of this answer to give you the seventh digit of the keypad code.

**18**

$$1 + 8 = 9$$

## Escape the Room      Answers for Digit 8

Use the clues to calculate the mystery five-digit number.

- The digits of the hundreds and ones total 12.
- It has two more ones than hundreds.
- It has one less ten thousand than ones.
- The digits of the thousands and hundreds total the same digit as the number of ten thousands.
- It has a digit sum of 22.

The tens digit of this answer will give you the eighth digit of the keypad code.

**61537**

**3**

## Escape the Room      Answers for Digit 9

Calculate the difference between these pairs of numbers.

1.	23	to	-13	<b>36</b>
2.	-16	to	27	<b>43</b>
3.	26	to	-12	<b>38</b>
4.	-11	to	31	<b>42</b>
5.	21	to	-24	<b>45</b>
6.	-8	to	35	<b>43</b>

Which answer appears twice?

Add together the digits of this answer to give you the ninth digit of the keypad code.

**43 appears twice.**

$$4 + 3 = 7$$

## Escape the Room      Answers for Digit 10

Find the missing digits in these calculations. Which missing digit is common to both calculations?

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

	7	0	5	6
-	3	9	5	2
	3	1	0	4

This answer will give you the tenth digit of the keypad code.

**9**