

Christmas maths escape room for CBSE Class 10

CBSE Math Revision · CBSE Class 10 (Class 9 can try most of it) · Student sheet

Name _____

Class _____

Date _____

No calculator. Every answer is a whole number.

Starter (5 minutes)

1. Find the LCM of 4 and 6.
2. Work out $3^2 + 4^2$.
3. Find the next term of the AP 7, 11, 15, ...

Main activity (36 minutes)

Cut out the cards. Each code unlocks the next card.

Lock 1: The wrapping room

Ribbons of 84 cm and 120 cm are cut into equal pieces, as long as possible, with nothing left over.

- a. Find the length of each piece: the HCF of 84 and 120. This is code 1.

Code for lock 1: _____

Lock 2: The list

The elves number their list with an AP.

- a. Find the term of the AP 5, 9, 13, ... whose position is code 1. This is code 2.

Code for lock 2: _____

Lock 3: The star

A star is hung from the top of the tree.

- a. Work out $\sqrt{(\text{code } 2) \times 11}$. This is code 3.

Code for lock 3: _____

Lock 4: The polynomial lock

The lock shows $p(x) = x^2 - kx + 12$, where $k = \text{code } 3 - 70$.

- a. Find the zeroes of $p(x)$. Their product is code 4.

Code for lock 4: _____

Lock 5: The dice

A fair die is thrown once.

- a. Find the probability of a number less than 5, then multiply it by code 4. This is code 5.

Code for lock 5: _____

Lock 6: The workshop door

The last lock.

- a. Find the distance between $(0, 0)$ and $(\text{code } 5 - 2, 8)$. It opens the door.

Code for lock 6: _____

Extension

1. A conical party hat has radius 7 cm and height 24 cm. Find its slant height and its curved surface area. (Use $\pi = 22/7$.)