

Summer maths escape room for IB Maths: answers

IB Math Revision · IB Maths SL and HL (AA and AI) · Teacher answers and notes

No GDC needed.

Teacher notes

- How to run it: print the student sheet and cut out the six lock cards. Give each team lock 1. When a team brings you the right code, give them the next card (the answer key is in the answers PDF). The first team to open lock 6 escapes. Teams can also have every card at once and race through them in order.
- Each code is used in the next lock, so check every code before the team moves on: one slip early on breaks the chain.

Starter

1. **3**
 - In and e undo each other.
2. **12**
 - $3x^2 = 12$
3. **81**
 - $3 \times 3 \times 3 \times 3 = 81$

Lock 1: The shells

- a. **486**
 - $u_6 = 2 \times 3^5 = 486$

Lock 2: The tide

- a. **5**
 - $3^x = 243 = 3^5$

Lock 3: The sand

- a. **25**
 - $[x^2]_0^5 = 25$

Lock 4: The windbreak

- a. **4**
 - $\sqrt{(25 - 9)} = 4$

Lock 5: The coin

- a. **P = 3/8, so code 11**
 - ${}^4C_2 \times (1/2)^4 = 6/16 = 3/8$
 - $3 + 8 = 11$

Lock 6: The beach hut

a. **30**

- $u_{11} = 100 - 10 \times 7 = 30$

Extension

1. **45**

- $r = 1/3$
- $30 / (1 - 1/3) = 45$

Every question is original and every answer was recomputed by computer before publishing.