

Question 1

Lowest number

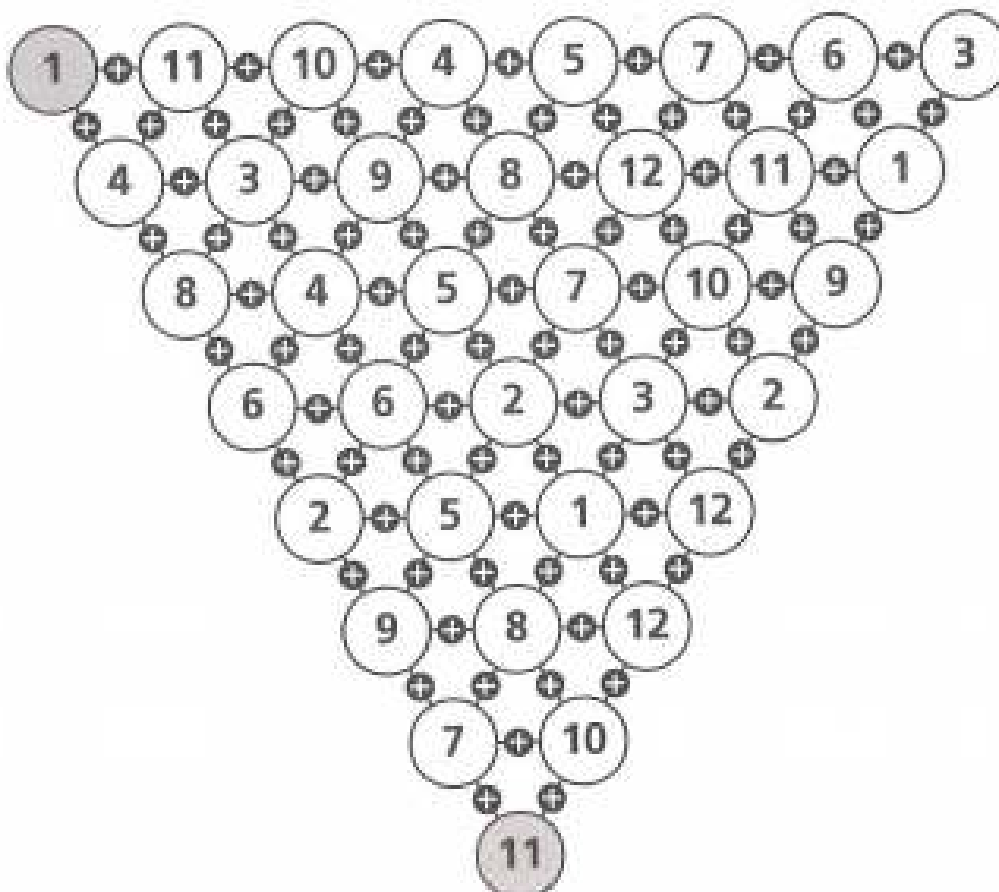
What is the lowest number that has all these three properties?

- ⇒ It is the sum of five consecutive numbers
- ⇒ It is the sum of two consecutive odd numbers
- ⇒ It is the sum of three consecutive even numbers

Question 2

Can you find a way through the maze from 1 to 11 where your total equals 72?

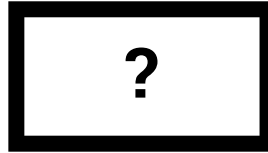
Additions through the grid



Question 3

What's next?

120 210 336



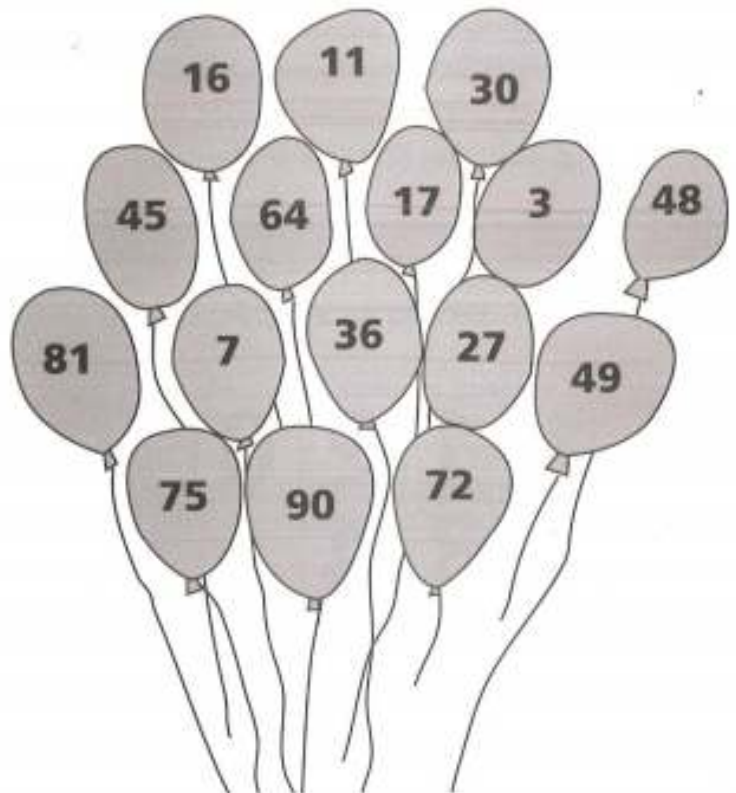
Each of these numbers is both the sum of three consecutive numbers and the product of three consecutive numbers. What is the next number in the sequence?

Question 4

Burst the balloons

Burst the balloons that match the following attributes. Which balloon is left?

- ⇒ Balloons with a multiple of both 3 and 5
- ⇒ Balloons with a square number
- ⇒ Balloons with a prime number
- ⇒ Balloons with numbers having 8 as a factor



Useful glossary:

Consecutive Numbers. Numbers which follow each other in order, without gaps, from smallest to largest. 12, 13, 14 and 15 are **consecutive numbers**.

A **square number** is the result when a **number** has been multiplied by itself. For example, 25 is a **square number** because it's 5 lots of 5, or 5×5 100 is also a **square number** because it's 10^2 (10×10 , or "ten **squared**").

A **prime number** is a **number** greater than 1 that cannot be divided evenly by any **number** other than itself or 1. For example: 17 is a **prime number** because you cannot divide it (without a remainder) by any **number** except 17 or 1: $17 \div 17 = 1$.

A **multiple** is a **number** that can be divided by another number a certain number of times without a remainder.

A **factor** is one of two or more numbers that divides a given number without a remainder.

Answers

Q1 **60 because:**

$$10 + 11 + 12 + 13 + 14$$

$$29 + 31$$

$$18 + 20 + 22$$

$$Q2 \ 1 + 11 + 3 + 9 + 5 + 7 + 3 + 1 + 5 + 9 + 7 + 11 = 72$$

Always take the option of the odd number!

Q3

$$120 = 39 + 40 + 41 = 4 \times 5 \times 6$$

$$210 = 69 + 70 + 71 = 5 \times 6 \times 7$$

$$336 = 111 + 112 + 113 = 6 \times 7 \times 8$$

$$\underline{504} = 167 + 168 + 169 = 7 \times 8 \times 9$$

Q4

First burst: 30, 45, 75, 90

Second burst 16, 36, 49, 64, 81

Then 3, 7, 11, 17

Finally burst 48, 72

27 remains