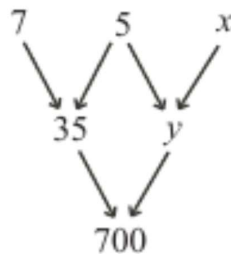Find the next number in this pattern: 14, 19, 24, 29, 34, ...

Find the value of the smallest positive term of the sequence:2006, 1807, 1608, 1409,...
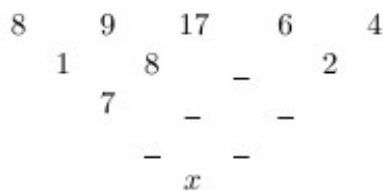
A hospital places people in Wards following a pattern. If Ward 2 has 5 patients, Ward 3 has 9 patients, Ward 4 has 13 patients, and Ward 5 has 17 patients, how many patients are in Ward 1 and Ward 6 combined?

Each number below the top row is a product of the number to the right and the number to the left in the row immediately above it. What is the value of x?

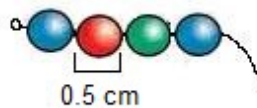$$7 \quad 5 \quad x$$
$$35 \quad y$$
$$700$$

*Find the value of the 2018th term of the sequence: 0, 4, 8, 12, 16, 20, 24 ...

In the chart, each number below the top row is the positive difference of the two numbers to the right and left in the row immediately above it. What is the value of x?
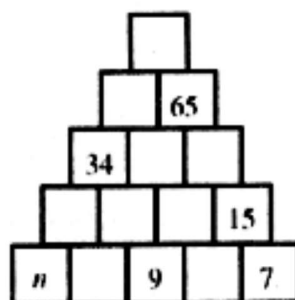
$$
\begin{array}{ccccccccc}
8 & & 9 & & 17 & & 6 & & 4 \\
& 1 & & 8 & & \_ & & 2 & \\
& & 7 & & \_ & & \_ & & \\
& & & \_ & & \_ & & & \\
& & & & x & & & &
\end{array}
$$

Sara is making a necklace with the pattern of blue bead, red bead, green bead, blue beadblue bead, red bead, green bead, blue bead, ... She has 25 cm of string and each bead is 1/2 a cm thick. If she starts with a blue bead, how many red beads does she need?

0.5 cm

What number comes next in the pattern? 1,1,2,6,24,?

**In the sequence 1, 1, 4, 10, 28, 76, ... each number (except the first two numbers) is determined by the previous two numbers. What is the next term in this sequence?

**Each block shown in this tower is to have a number displayed on it. Some are already done. For each block above the bottom row, the number on it should be the sum of the numbers on the two blocks it stands upon. What number should replace n?

```
        [   ]
      [ 65 ]
   [ 34 ][   ]
 [   ][   ][ 15 ]
[ n ][ 9 ][ 7 ]
```

A mad professor has created a new kind of creature called a Blorg. For each Blorg, one hour after it is born, it gives birth to a new Blorg. Two hours after it is born, it gives birth to two more new Blorgs and then it immediately dies. If the Professor starts with one newborn Blorg at noon, how many live Blorgs does he have at 4:30PM that afternoon?

The inverted pyramid below is filled with numbers so that the number in the box below is the sum of the two numbers of the boxes above that touch it. If all of the boxes are filled by following this pattern, what number should be placed on the lowest box with the "X"?

```
[   ][ 3 ][   ][ 4 ]
   [10 ][   ][   ]
      [17 ][   ]
         [ X ]
```