

[illegible]

Total Marks for Invitation Round : _____

1. The value of the product

$$2 \times 4 \times 6 \times 8 \times 10 \times 12 \times 14 \times 16 \times 18 \times 20$$

ends with 2 consecutive zeros.

How many consecutive zeros with the value of each of the following products end with ?

(a) $2 \times 4 \times 6 \times 8 \times \dots \times 100$,

(b) $2 \times 4 \times 6 \times 8 \times \dots \times 1000$.

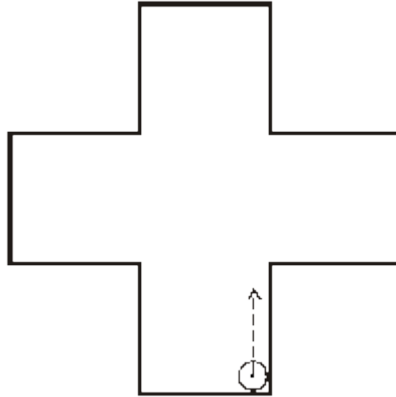
2. There are several red balls and white balls on the table.

If one red ball and one white ball are removed together each time until no red balls are left on the table, then the number of remaining white balls is 50.

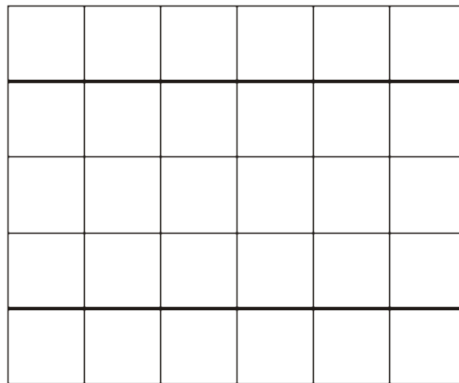
If one red ball and three white balls are removed together each time until no white balls are left on the table, then the number of remaining red balls is also 50.

Find the total number of red balls and white ball at first.

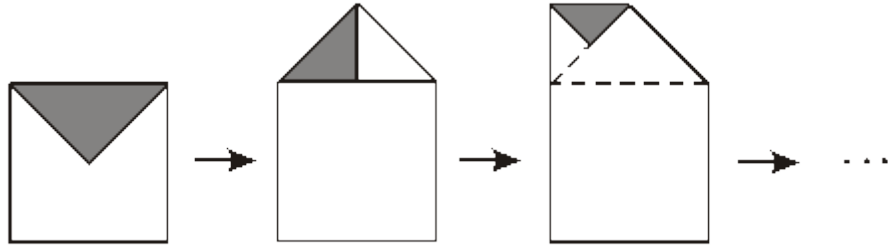
3. Each side of the figure is 10 cm long . A small circular disc of radius 1 cm is placed at one corner as shown. If the disc rolls along the sides of the figure and returns to the starting position, find the distance travelled by the centre of the disc .



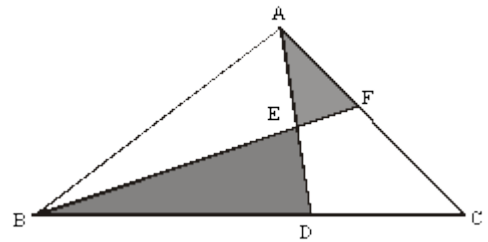
4. Draw two straight lines to divide the figure into four portions whose areas are in the ratio $1 : 2 : 3 : 4$.



5. The figure shows a shaded triangle attached to the square of side 2 cm. When the shaded triangle is unfolded, there is a smaller shaded triangle attached to it. When the smaller shaded triangle is unfolded, there is an even smaller shaded triangle attached to it as shown. If there are infinitely many shaded triangle unfolded in this manner, find the total area of the figure unfolded.



6. In the figure on the right, the area of the $\triangle ABC$ is 5 cm^2 , $AE = ED$ and $BD = 2DC$. Find the total area of the shaded part.



THE END

Singapore Mathematical Olympiad for Primary Schools 2001
Invitation Round – Answers Sheet

Question 1:

Ans: a) 12 b) 124

Question 2:

Ans: 250

Question 3:

Ans: $(104+2\pi)$ cm

Question 4:

Question 5:

Ans: 6cm^2

Question 6:

Ans: 2cm^2