

OBJECTIVE

To find HCF of two numbers by Euclid's Division Lemma.

MATERIALS REQUIRED

Glazed papers of different colours, white paper, scissors, ruler, sketch pen, glue.

PROCEDURE

1. Cut out one strip of length a units, one strip of length b units ($b < a$), two strips each of length c units ($c < b$), one strip of length d units ($d < c$) and two strips each of length e units ($e < d$) from the coloured glazed paper.

2. Stick these strips on the white paper as shown in Fig. 1 to Fig. 4

Fig 1

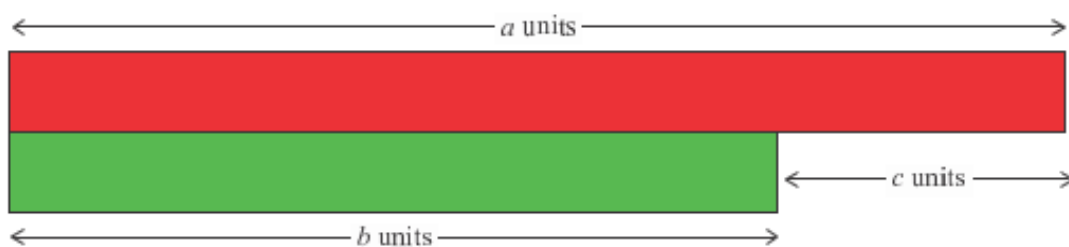


Fig 2

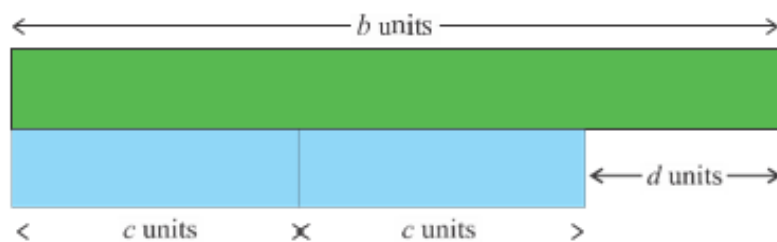


Fig 3

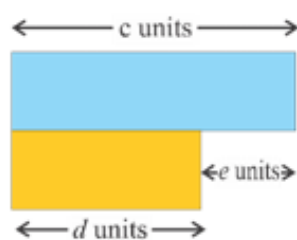
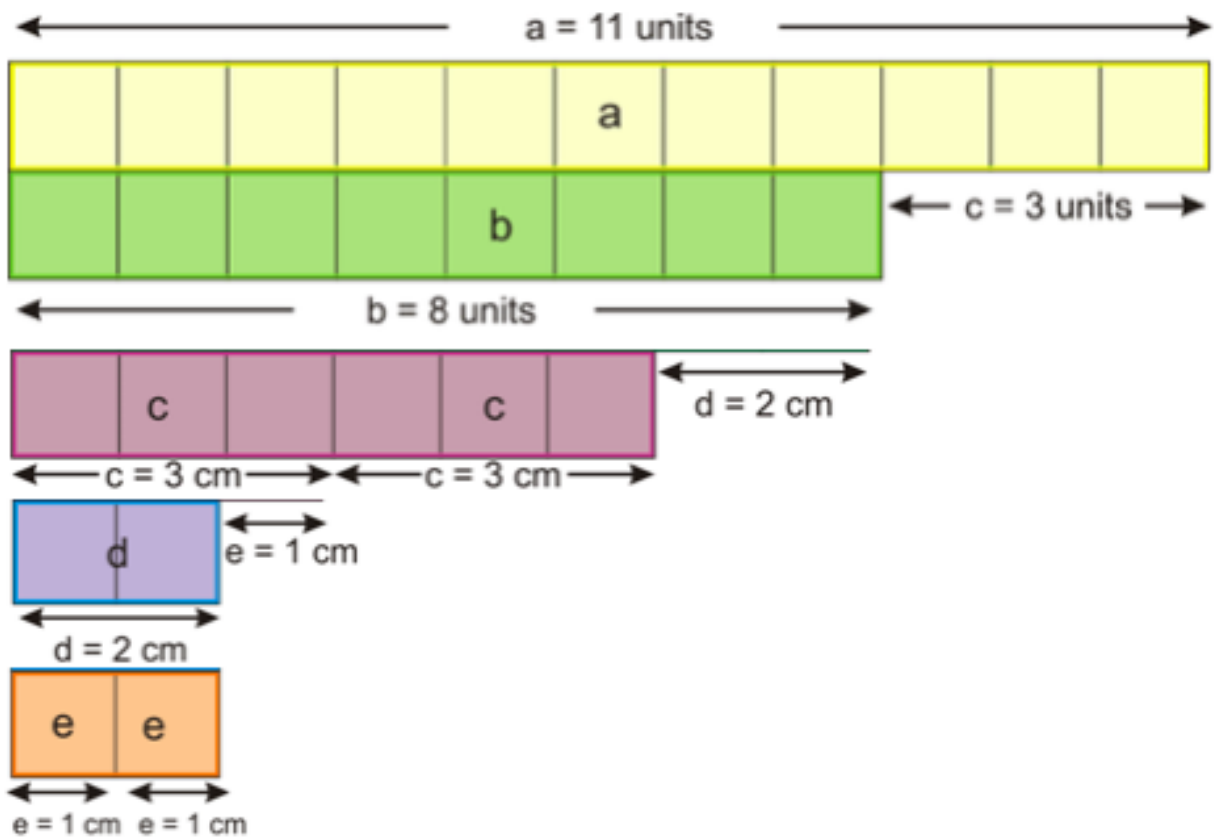


Fig 4





OBSERVATION

As per Euclid Division Lemma,

Fig. 1 depicts $a = b \times 1 + c$ (1)

Fig. 2 depicts $b = c \times 2 + d$ (2)

Fig. 3 depicts $c = d \times 1 + e$ (3) and

Fig. 4 depicts $d = e \times 2 + 0$ (4)

As per assumptions in Euclid Division Algorithm,

HCF of a and $b =$ HCF of b and c

$=$ HCF of c and d

$=$ HCF of d and e

The HCF of d and e is equal to $\dots e \dots$, from (4) above. So, HCF of a and $b = \dots e \dots$

On actual measurement (in mm/cm)

$a = 11\text{ cm}$, $b = 8\text{ cm}$, $c = 3\text{ cm}$, $d = 2\text{ cm}$, $e = 1\text{ cm}$

So, HCF of 11 and 8 = 1

CONCLUSION

Using Euclid's Division Lemma the HCF of two numbers say 11 and 8 is found to be 1