

Find the greatest number that divides 445, 572 and 699 leaving remainders 4, 5 and 6 respectively.

Solution:

$$445 - 4 = 441$$

$$572 - 5 = 567$$

$$699 - 6 = 693$$

The greatest number is the HCF of 441, 567 and 693

By Euclid's division algorithm

$$567 = 441 \times 1 + 126$$

$$441 = 126 \times 3 + 63$$

$$126 = 63 \times 2 + 0$$

$$\text{HCF of } 567 \text{ and } 441 = 63$$

By Euclid's division algorithm

$$693 = 63 \times 11 + 0$$

$$\text{HCF of } 693 \text{ and } 63 = 63$$

$$\text{Required number} = 63$$