

What is the largest number that divides 626, 3127 and 15628 and leaves remainders of 1, 2 and 3 respectively?

Solution:

$$626 - 1 = 625$$

$$3127 - 2 = 3125$$

$$15628 - 3 = 15625$$

By Euclid's division algorithm

$$3125 = 625 \times 5 + 0$$

$$\text{HCF of } 625 \text{ and } 3125 = 625$$

By Euclid's division algorithm

$$15625 = 625 \times 25 + 0$$

$$\text{HCF of } 625 \text{ and } 15625 = 625$$

$$\text{Required number} = 625$$