

Mathematics

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(Chapter – 1) (Real Numbers)(Exemplar Problems)
(Class – X)

Exercise 1.2

Question 6:

The numbers 525 and 3000 are both divisible only by 3, 5, 15, 25 and 75. What is HCF (525, 3000)? Justify your answer.

Answer 6:

Since, the HCF (525 and 3000) = 75

By Euclid's Lemma, $3000 = 525 \times 5 + 375$

[∵ dividend = divisor × quotient + remainder]

$$525 = 375 \times 1 + 150$$

$$375 = 150 \times 2 + 75$$

$$150 = 75 \times 2 + 0$$

The numbers 3, 5, 15, 25 and 75 divides the numbers 525 and 3000. It mean these terms are common in both 525 and 3000.

So, the highest common factor among these is 75.

