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EXERCISE 2.7

1. Determine the HCF of the following numbers by using Euclid's algorithm (i - x):

(i) 300, 450

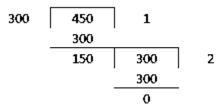
(ii) 399, 437

(iii) 1045, 1520

Solution:

(i) 300, 450

Taking 450 as dividend and 300 as divisor



We know that the last divisor is 150

Therefore, HCF of 300, 450 is 150.

(ii) 399, 437

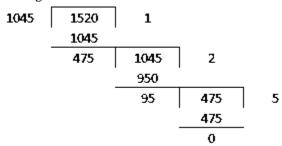
Taking 437 as dividend and 399 as divisor

We know that the last divisor is 19

Therefore, HCF of 399, 437 is 19.

(iii) 1045, 1520

Taking 1520 as dividend and 1045 as divisor



We know that the last divisor is 95

Therefore, HCF of 1045, 1520 is 95.

2. Show that the following pairs are co-prime:



(i) 59, 97

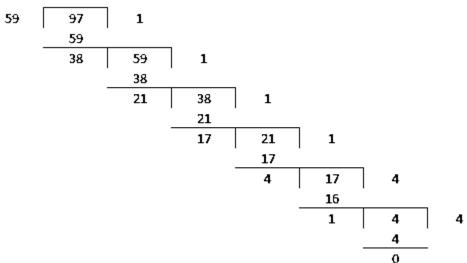
(ii) 875, 1859

(iii) 288, 1375

Solution:

(i) 59, 97

Taking 97 as dividend and 59 as divisor

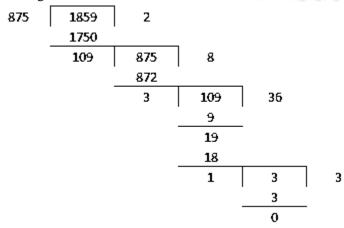


We know that the last divisor is 1.

Therefore, the numbers 59, 97 are co-prime.

(ii) 875, 1859

Taking 1859 as dividend and 875 as divisor



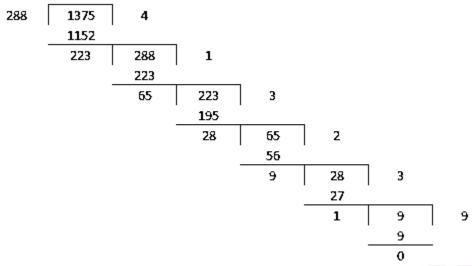
We know that the last divisor is 1.

Therefore, the numbers 875, 1859 are co-prime.

(iii) 288, 1375

Taking 1375 as dividend and 288 as divisor





We know that the last divisor is 1.

Therefore, the numbers 288, 1375 are co-prime.

3. What is the HCF of two consecutive numbers? Solution:

We know that the HCF of two consecutive numbers is 1.

For example consider 4 and 5 as two consecutive numbers Taking 5 as dividend and 4 as divisor

We know that the last divisor is 1.

Therefore, HCF of 4 and 5 is 1.

- 4. Write true (T) or false (F) for each of the following statements:
- (i) The HCF of two distinct prime numbers is 1.
- (ii) The HCF of two co-prime number is 1.
- (iii) The HCF of an even and an odd number is 1.
- (iv) The HCF of two consecutive even numbers is 2.
- (v) The HCF of two consecutive odd numbers is 2.

Solution:

- (i) True.
- (ii) True.
- (iii) False. The HCF of even number 6 and odd number 9 is 3.



(iv) True.

(v) False. The HCF of numbers 25 and 27 is 1.

