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(Affiliated to CBSE up to +2 Level)

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Real Numbers Class 10 Notes: Chapter 1

Q 1. What do you mean by Euclid's division lemma?

Q2. A number when divided by 61 gives 27 as quotient and 32 as remainder. Find the number.

Q 3. By what number should 1365 be divided to get 31 as quotient and 32 as remainder.

Q 4. Using Euclid's division algorithm, find the HCF of

(i) 405 and 2520 (ii) 504 and 1188 (iii) 960 and 1575

Q5. Show that every positive integer is either even or odd..

Q6.Show dial any positive odd integer is of the form (6m + 1) or (6m + 3) or (6m + 5), where m is some integer.

Q7.Show that any positive odd integer is of the form (4m + 1) or (4m + 3), when m is some integer.

Q8.For any positive integer n, prove that $n^3 - n$ is divisible by 6.

Q9.Prove that if x and y are both odd positive integers then $x^2 + y^2$ is even but not divisible by 4.

Q 10.Use Euclid's algorithm to find HCF of 1190 and 1445. Express the HCF in the form 1190m + 1445n.

Solution : By Euclid's division lemma, we get

a = bq + r

Step I 1445 = 1190 x 1 + 255; r ≠ 0 .....(1)

Step II 1190 = 255 x 4 + 170 ; r ≠ 0.....(2)

Step III 255 = 170 x 1 +85 ; r ≠ 0----------(3)

Step IV 170 = 85 x 2 + 0 r = 0The remainder is now 0, so our procedure steps

HCF (1190, 1445) = 85

Now, from (iii), we get

=> 85 = 255 – 170 x 1 From ...(3) = (1445 – 1190) – (1190 – 255) x 4 = (1445 – 1190) – (1190 – 255) x 4	= (1445 – 1190) x 2 + (1445 – 1190) x 4 = 1445 – 1190 x 2 + 1445 x 4 – 1190 x 4 = 1445 x 5 – 1190 x 6 = 1190 x (-6) + 1445 x 5 Hence, m = -6, n = 5