

Mathematics

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

Exercise 1.1

Choose the correct answer from the given four options in the following questions:

Question 6:

If two positive integers a and b are written and $a = x^3y^2$ and $b = xy^3$, where x, y are the prime numbers, then HCF (a, b) is

- (A) xy (B) xy^2 (C) x^3y^3 (D) x^2y^2

Answer 6:

- (B) xy^2

Solution:

Given that,

$$a = x^3y^2 = x \times x \times x \times y \times y \quad \text{and} \quad b = xy^3 = x \times y \times y \times y$$

∴ HCF of a and b

$$= \text{HCF} (x^3y^2, xy^3)$$

$$= x \times y \times y = xy^2$$

[Since, HCF is the product of the smallest power of each common prime factor involved in the numbers]

