

RD SHARMA

Solutions

Class 6 Maths

Chapter 8

Ex 8.2

Question 1. Write each of the following products in exponential form:

(i) $a \times a \times a \times a \times a \times \dots$ 15 times

(ii) $8 \times b \times b \times b \times b \times a \times a \times a \times a$

(iii) $5 \times a \times a \times a \times a \times b \times b \times c \times c \times c$

(iv) $7 \times a \times a \times a \dots$ 8 times $\times b \times b \times b \dots$ 5 times

(v) $4 \times a \times a \times a \times a \dots$ 5 times $\times b \times b \times b \dots$ 12 times $\times c \times c \times c \dots$ 15 times

Solution:

(i) a^{15}

(ii) $8a^4b^3$

(iii) $5a^3b^2c^3$

(iv) $7a^8b^5$

(v) $4a^5b^{12}c^{15}$

2. Write each of the following in the product form:

(i) a^2b^5 (ii) $8x^3$

(iii) $7a^3b^4$ (iv) $15a^9b^8c^6$

(v) $30x^4y^4z^5$ (vi) $43p^{10}q^5r^{15}$

(vii) $17p^{12}q^{20}$

Solution:

(i) $a \times a \times b \times b \times b \times b \times b$

(ii) $8 \times x \times x \times x$

(iii) $7 \times a \times a \times a \times b \times b \times b \times b$

(iv) $15 \times a \times a \times a \times a \dots$ 9 times $\times b \times b \times b \times b \dots$ 8 times

(v) $30 \times$

3. Write down each of the following in the exponential form:

(i) $4a^3 \times 6ab^2 \times c^2$

(ii) $5xy \times 3x^2y \times 7y^2$

(iii) $a^3 \times 3ab^2 \times 2a^2b^2$

Solution:

(i) $24a^4b^2c^2$

(ii) $105x^3y^4$

(iii) $6a^6b^4$

4. The number of bacteria in a culture is x now. It becomes square of itself after one week. What will be its number after two weeks?

Solution:

Present number of bacteria in a culture = x

Number of bacteria in the culture after one week = x^2

Number of bacteria in the culture after two weeks = $(x^2)^2 = x^4$

5. The area of a rectangle is given by the product of its length and breadth. The length of a rectangle is two-thirds of its breadth. Find its area if its breadth is x cm.

Solution:

Breadth of the given rectangle = x cm

Length of the rectangle = $\frac{2}{3}x$ cm

Area of the rectangle = $\frac{2}{3}x \times x = \frac{2}{3}x^2$ cm²

6. If there are x rows of chairs and each row contains x² chairs. Determine the total numbers of chairs.

Solution:

Total number of chairs = Number of rows \times Number of chairs in each row

$$= x \times x^2 = x^3$$