Class 7-Mathematics

Instructions for students: The notes provided must be copied to the Maths copy and then do the homework in the same copy.

Chapter 4

EXPONENTS

Exercise 4.2 - Continued

Q9. ii Simplify
$$\left[\left(\frac{-3}{4}\right)^3 - \left(\frac{-5}{2}\right)^3\right] \times \left(-\frac{2}{3}\right)^3$$

$$\left[\left(\frac{-3}{4}\right)^3 - \left(\frac{-5}{2}\right)^3\right] \times \left(-\frac{2}{3}\right)^3 = \left[\frac{(-3)^3}{4^3} - \frac{(-5)^3}{2^3}\right] \times \frac{(-2)^4}{3^4}$$

$$= \left[\frac{-27}{64} - \left(\frac{-125}{8}\right)\right] \times \frac{16}{81}$$

$$= \left(\frac{-27}{64} + \frac{125}{8}\right) \times \frac{16}{81}$$

$$= \frac{(-27\times1) + (125\times8)}{64} \times \frac{16}{81}$$

$$= \frac{-27 + 1000}{64} \times \frac{16}{81}$$

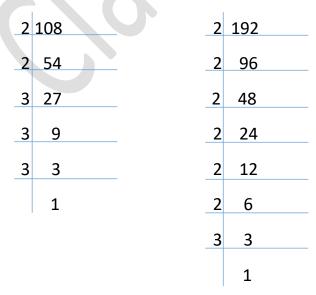
$$= \frac{973}{644} \times \frac{16}{81}$$

$$= \frac{973\times1}{4\times81}$$

$$= \frac{973}{324} = 3\frac{1}{324}$$

12. i. Express as a product of prime factors in the exponential form.

108× 192



14. ii. By what number should we multiply $(-6)^{-1}$ so that the product is 10^{-1} ?

Let the number to be multiplied be 'x'.

Then,
$$x \times (-6)^{-1}$$
 = 10^{-1}

$$\Rightarrow x$$
 = $\frac{10^{-1}}{(-6)^{-1}}$
= $\left(\frac{10}{-6}\right)^{-1}$
= $\left(\frac{5}{-3}\right)^{-1}$
= $\left(\frac{1}{\frac{5}{-3}}\right)^{1}$
= $\left(\frac{-3}{5}\right)^{1}$
= $\frac{-3}{5}$

The required number = $\frac{-3}{5}$

Complete Exercise 4.2 Questions 9 to 15 in the Maths copy.

Watch the video for more solutions from the exercise.