



ASSIGNMENT-4



Marks Obtained: _____

Student's Name: _____ Section: _____

Roll Number: _____ Date: _____

A. Fill in the blanks.

- The approximate distance of the moon from the Earth is 384467000 m and in exponential form this distance can be written as
- The value of $(3^2 - 2^2) \times \left(\frac{2}{3}\right)^{-3}$ is
- If the thickness of one paper is 0.0015 cm, then the height of a bundle of 300 papers placed on each other, is written in exponential form as
- The human body has about 100 billion cells. The number of cells can be written in exponential form as
- The expression for 27^{-2} as a power with the base 3 is

B. Label True or False.

- The value of $\frac{1}{3^2}$ is equal to -9
- 729 expressed as the power of 3 is 3^6
- $\left(\left(\frac{1}{2}\right)^3\right)^{-2} - \left(\frac{1}{4}\right)^2 = -63\frac{15}{16}$
- If the mass of the Earth is 5.97×10^{24} kg and the mass of the Mars is 6.42×10^{29} kg, then the total mass of both the planets is 12.39×10^{53} kg.
- For a fixed base, if the exponent decreases by 2, the number becomes one-hundredth of the previous number.

C. Match the following.

Column A	Column B
1. $a^m \times a^n$	(a) $\frac{1}{a^m}$
2. $(a^m)^n$	(b) a^{m-n}
3. $a^m \div a^n$	(c) $(ab)^m$
4. $(a)^{-m}$	(d) a^{m+n}
5. $a^m \times b^m$	(e) a^{mn}

D. Do as directed.

- Simplify: (i) $\left(\left(\frac{-3}{2}\right)^{-2}\right)^3 \times \left(\frac{1}{3}\right)^{-3} \times 4^{-1} \times \frac{1}{12}$ (ii) $(7^{-1} - 5^{-1}) - (4^{-1} - 2^{-1})$
- (i) By what number should $(-24)^{-1}$ be divided so that the quotient may be equal to $(-8)^{-1}$?
 (ii) By what number should $(-15)^{-3}$ be multiplied so that that the product may be equal to $(-6)^{-3}$?