8 CLASS MATH TUITION ASSIGNMENT

Assignment – 12

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Chapter = Exponents and Powers

Submission Date = 08 January 2022 **MM = 20**

Q1. Simplify and write in exponential form.

$(i)\ (-5)^2 \times (-5)^{-3}$ $(ii)\ \left(\frac{1}{2}\right)^{-3} \times \left(\frac{1}{2}\right)^{-2}$

Q2. Find the value of k if $(-2)^{k+1} \times (-2)^3 = (-2)^7$

Q3. Simplify the following:

$(i)\ \left\{\left[\left(\frac{1}{4}\right)^{-3} - \left(\frac{1}{3}\right)^{-3}\right] \div \left(\frac{1}{4}\right)^{-2}\right.$

$(ii)\ \left(\frac{2}{3}\right)^{-6} \times \left(\frac{3}{2}\right)^{-4}$

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Q4. Find the values of each of the following:

(i) $(1/2)^{-1} + (1/3)^{-1} + (1/4)^{-1}$

(ii) $(1/2)^{-2} + (1/3)^{-2} + (1/4)^{-2}$

(iii) $(2^{-1} \times 4^{-1}) \div 2^{-2}$

(iv) $(5^{-1} \times 2^{-1}) \div 6^{-1}$

Q5. By what number should $(1/2)^{-1}$ be multiplied so that the product may be equal to $(-4/7)^{-1}$?

Q6. By what number should $(-15)^{-1}$ be divided so that the quotient may be equal to $(-5)^{-1}$?

Q7.

$$\text{If } \left(\frac{x}{y}\right) = \left(\frac{3}{2}\right)^{-2} \div \left(\frac{3}{7}\right)^{0}, \text{ find the value of } \left(\frac{x}{y}\right)^{-3}.$$

Q8. Find the value of P if

$$\left(\frac{2}{5}\right)^{3} \times \left(\frac{2}{5}\right)^{-6} = \left(\frac{2}{5}\right)^{2P-1}$$

Q9. Find x, if

$(1/4)^{-4} \times (1/4)^{-8} = (1/4)^{-4x}$

Q10. If $x = (3/2)^{2} \times (2/3)^{-4}$, find the value of x^{-2}.