Subject: Maths Class: 8 Topic: Exponents and Powers

Watch video #6 and solve the following exercise:

EXERCISE 2.1

Use **Cordova Smart Class Software** on the **smart board** in class to do Exercise.

1. Express each of the following as a rational number :

   (*i*) $(-2)^5$ (*ii*) $\left(-\frac{5}{6}\right)^3$ (*iii*) $(2)^{-4}$ (*iv*) $(-4)^{-4}$ (*v*) $\left(-\frac{4}{5}\right)^{-2}$

2. Write the multiplicative inverse of the following :

   (*i*) $(7)^{-2}$ (*ii*) $(-4)^3 \times \frac{1}{2^3}$ (*iii*) $5^{-2} \div 5^{-4}$ (*iv*) $\left(\frac{3}{4}\right)^{-2}$

3. Show that $\left[\left(\frac{3}{5}\right)^{-1} - \left(\frac{1}{3}\right)^{-1}\right]^{-1} = -\frac{3}{4}$.

4. By what number should $(-36)^{-1}$ be divided so that the quotient is 9^{-1} ?

5. By what number should $(-6)^{-1}$ be multiplied so that the product is 27^{-1} ?

6. Simplify :

   (*i*) $(3^{-1} \times 3^{-2}) \div 3^{-3}$ (*ii*) $(4^2 - 3^2) \times \left(\frac{7}{2}\right)^{-2}$ (*iii*) $(5^{-1} \times 6^{-1}) \div 10^{-1}$ (*iv*) $(6^{-1} \div 7^{-1})^2$

7. If $a = -2$, $b = 3$, evaluate each of the following :

   (*i*) $25a^{-3}$ (*ii*) $27a^2b^{-3}$ (*iii*) $162(-a)^{-1}(b)^{-3}$