

# Logarithm

## Exercise 3.3 for Class IX

Q1. Write the following into sum or difference.

(i)  $\log(A \times B)$

(ii)  $\log \frac{15.2}{30.5}$

(iii)  $\log \frac{21 \times 5}{8}$

(iv)  $\log \sqrt[3]{\frac{7}{15}}$

(v)  $\log \frac{22^{\frac{1}{3}}}{5^3}$

(vi)  $\log \frac{25 \times 47}{29}$

Q2. Express  $\log x - 2 \log x + 3 \log(x + 1) - \log(x^2 - 1)$  as a single logarithm.

Q3. Write the following in the form of a single logarithm.

(i)  $\log 21 + \log 5$

(ii)  $\log 25 + 2 \log 3$

(iii)  $2 \log x - 3 \log y$

(iv)  $\log 5 + \log 6 - \log 2$

Q4. Calculate the following:

(i)  $\log_3 2 \times \log_2 81$

(ii)  $\log_5 3 \times \log_3 25$

Q5. If  $\log 2 = 0.3010$ ,  $\log 3 = 0.4771$ ,  $\log 5 = 0.6990$ , then find the values of the following.

(i)  $\log 32$

(ii)  $\log 24$

(iii)  $\log \sqrt[3]{3 \frac{1}{3}}$

(iv)  $\log \frac{8}{3}$

(v)  $\log 30$