

**BHARATIYA VIDYA BHAVAN'S V.M.PUBLIC SCHOOL
VADODARA**

Date:	WORKSHEET	Subject: Mathematics
Class: VIII	Exponents & Powers	

1. Evaluate:

(a) $\left(\frac{1}{4}\right)^{-2}$ (b) 5^{-3} (c) $(-2)^{-3}$ (d) $\left(\frac{-3}{7}\right)^{-2}$ (e) $(-4)^{-1} \times \left(\frac{1}{4}\right)^{-1}$

2. Find the value of:

(a) $5^{-1} \times 5^3$ (b) $\left[\left(\frac{3}{5}\right)^{-1}\right]^2$ (c) $\left(\frac{-3}{8}\right)^{-3} \times \left(\frac{4}{9}\right)^{-2}$ (d) $(2 \times 3)^{-2}$ (e) $(5^{-1} \div 4^{-1})^3$

3. Simplify:

(a) $(5^{-1} \times 2^{-1})$ (b) $(2^2 \times 4^{-1})^{-1}$ (c) $\left(\frac{2}{5}\right)^{20} \div \left(\frac{5}{2}\right)^{22}$ (d) $(5^{-2} \times 2^{-2})^{-2}$ (e) $\left[\left(\frac{2}{7}\right)^{-2}\right]^3$
(f) $(5^0 + 4^{-1}) \times 2^2$ (g) $(2^{-1} \times 3^{-1}) \div 2^{-1}$ (h) $\left(\frac{1}{2}\right)^{-1} + \left(\frac{1}{3}\right)^{-2} + \left(\frac{1}{4}\right)^{-3}$

4. Find the value of x for the following:

(a) $3^{x-2} \div 3^{-3} = 3^4$ (b) $\left(\frac{2}{7}\right)^{2x} \times \left(\frac{2}{7}\right)^x = \left(\frac{2}{7}\right)^6$ (c) $\left(\frac{1}{3}\right)^{2x} \times \left(\frac{1}{3}\right)^2 = 3^4$ (d) $16^2 \times 8^4 = 4^x$

5. Write the following in standard form:

(a) 30303000000 (b) 0.00000003298 (c) 625003298.25 (d) 0.0000008×10^{-2} (e) 100.001×10^3

6. Express the following in usual form:

(a) 5.12×10^4 (b) 3×10^{-8} (c) 0.001×10^6 (d) 3.457×10^{-9}

7. By what number should we multiply 2^{-4} so that the product is 2^2 ?

8. By what number should $(-40)^{-1}$ be divided so that the quotient is 5^{-1} ?

9. If $\left(\frac{1}{3}\right)^{-4} \times \frac{p}{q} = \left(\frac{-2}{3}\right)^{-2} \div \left(\frac{3}{5}\right)^{-2}$

10. Simplify:

(a) $\frac{4^{-3} \times 6^{-5}}{2^{-5} \times 3^{-6} \times 9^{-4}}$ (b) $\frac{3^{-5} \times 10^{-5} \times 125}{5^{-7} \times 6^{-5}}$