

**DAV Public School**  
**Pokhariput, Bhubaneswar**  
**Subject – Mathematics, Class VIII**  
**Chapter 3: Exponents and Radicals**  
**Worksheet (Basic)**

1. Write in exponential form:
  - a)  $5 \times 5 \times 5 \times 5 \times 5$  1
  - b)  $(-4) \times (-4) \times (-4)$
2. Value of  $(-1)^{15} \times (-1)^{16}$  equals: 1
  - (a) 1      (b) -1      (c) -240      (d) 240
3. Express each of the following in exponential form: 2
  - (a) 1024    (b) 1331/343
4. Which is greater: 2
  - (a)  $3^6$  or  $6^3$ ?
  - (b)  $-(5^2)$  or  $(-5)^2$ ?
5. Express each of the following numbers as a product of powers of its prime factors: 2
  - a) 128
  - b) 625
6. Find the value: 3
  - a)  $(25)^{3/2}$
  - b)  $(27)^{4/3}$
  - c)  $(\frac{4}{9})^{3/2}$
7. Evaluate (i)  $\left\{ \left(\frac{1}{3}\right)^{-1} - \left(\frac{1}{4}\right)^{-1} \right\}^{-1}$  (ii)  $\left(\frac{5}{8}\right)^{-7} \times \left(\frac{8}{5}\right)^{-4}$  3
8. Find the value of  $m$  for which  $5^m \div 5^{-3} = 5^5$ . 3
9. Simplify. 4
  - (i)  $\frac{25 \times t^{-4}}{5^{-3} \times 10 \times t^{-8}} \quad (t \neq 0)$
  - (ii)  $\frac{3^{-5} \times 10^{-5} \times 125}{5^{-7} \times 6^{-5}}$
10. Simplify and express each of the following in exponential form using laws of exponents: 4
  - a)  $(4^2)^3$
  - b)  $2^3 \times 5^3$
  - c)  $a^4 \times a^7$
  - d)  $5^{12} \div 5^4$