

EduSahara™ Learning Center Assignment**Grade : Class VI, ICSE****Chapter : Powers and Roots****Name : Prime Factorization and Exponent Notation****Licensed To : Teachers and Students for non-commercial use**

1. Find the prime factorization of 2592

(i) $2^5 \times 3^4$ (ii) $2^5 \times 3^3$ (iii) $2^5 \times 6^4$

(iv) $2^3 \times 3^4$ (v) $2^5 \times 3^5$

2. Find the prime factorization of 27648

(i) $2^{10} \times 3^3$ (ii) $2^{10} \times 3^2$ (iii) $2^{10} \times 5^3$

(iv) $2^8 \times 3^3$ (v) $2^{11} \times 3^3$

Find the exponential notation of

3. $5 \times 5 \times 5 \times 5 \times 5 \times 5 \times 5 \times 5$

(i) 8^8 (ii) 3^8 (iii) 5^7 (iv) 5^8 (v) 5^9

Find the exponential notation of

4. $-3 \times -3 \times -3 \times -3 \times -3 \times -3$

(i) $(-3)^6$ (ii) $(-3)^7$ (iii) $(-3)^8$ (iv) $(-3)^5$ (v) $(-6)^6$

Find the exponential notation of

5. $-14 \times -14 \times -14 \times -14 \times -14 \times -14 \times -14$

(i) $(-14)^7$ (ii) $(-14)^6$ (iii) $(-17)^7$ (iv) $(-12)^7$ (v) $(-14)^8$

Find the exponential notation of

6. $19 \times 19 \times 19$

(i) 16^3 (ii) 19^3 (iii) 22^3 (iv) 19^4 (v) 19^2

Find the exponential notation of

7. $\frac{7}{6} \times \frac{7}{6} \times \frac{7}{6} \times \frac{7}{6} \times \frac{7}{6} \times \frac{7}{6} \times \frac{7}{6} \times \frac{7}{6}$

(i) $\left(\frac{5}{6}\right)^8$ (ii) $\left(\frac{3}{2}\right)^8$ (iii) $\left(\frac{7}{6}\right)^8$ (iv) $\left(\frac{7}{6}\right)^7$ (v) $\left(\frac{7}{6}\right)^9$

Find the exponential notation of

8. $\frac{15}{11} \times \frac{15}{11} \times \frac{15}{11} \times \frac{15}{11} \times \frac{15}{11} \times \frac{15}{11} \times \frac{15}{11}$

(i) $\left(\frac{15}{11}\right)^8$ (ii) $\left(\frac{17}{11}\right)^7$ (iii) $\left(\frac{15}{11}\right)^7$ (iv) $\left(\frac{15}{11}\right)^6$ (v) $\left(\frac{13}{11}\right)^7$

Find the exponential notation of

9. $\left(\frac{-3}{4}\right) \times \left(\frac{-3}{4}\right) \times \left(\frac{-3}{4}\right) \times \left(\frac{-3}{4}\right) \times \left(\frac{-3}{4}\right) \times \left(\frac{-3}{4}\right) \times \left(\frac{-3}{4}\right)$

(i) $\left(\frac{-3}{4}\right)^6$ (ii) $\left(\frac{-3}{4}\right)^7$ (iii) $\left(\frac{-1}{4}\right)^7$ (iv) $\left(\frac{-5}{4}\right)^7$ (v) $\left(\frac{-3}{4}\right)^8$

Find the exponential notation of

10. $\left(\frac{-11}{13}\right) \times \left(\frac{-11}{13}\right) \times \left(\frac{-11}{13}\right) \times \left(\frac{-11}{13}\right) \times \left(\frac{-11}{13}\right) \times \left(\frac{-11}{13}\right) \times \left(\frac{-11}{13}\right) \times \left(\frac{-11}{13}\right)$

(i) $(-1)^8$ (ii) $\left(\frac{-11}{13}\right)^8$ (iii) $\left(\frac{-9}{13}\right)^8$ (iv) $\left(\frac{-11}{13}\right)^9$ (v) $\left(\frac{-11}{13}\right)^7$

11. Simplify the expression $\left(\frac{8}{7}\right)^2 \times \left(\frac{8}{7}\right)^2 \times \left(\frac{8}{7}\right)^6$

(i) $\left(\frac{8}{7}\right)^{11}$ (ii) $\left(\frac{10}{7}\right)^{10}$ (iii) $\left(\frac{8}{7}\right)^9$

(iv) $\left(\frac{6}{7}\right)^{10}$ (v) $\left(\frac{8}{7}\right)^{10}$

12. Simplify the expression $\left(\frac{-8}{5}\right)^6 \times \left(\frac{-8}{5}\right)^5$

(i) $\left(\frac{-8}{5}\right)^{12}$ (ii) $\left(\frac{-6}{5}\right)^{11}$ (iii) $\left(\frac{-8}{5}\right)^{11}$

(iv) $\left(\frac{-8}{5}\right)^{10}$ (v) $(-2)^{11}$

13. Simplify the expression $(-2)^{\left(\frac{9}{5}\right)} \times (-2)^{\left(\frac{9}{5}\right)} \times (-6)^{\left(\frac{9}{5}\right)}$

(i) $(-21)^{\left(\frac{9}{5}\right)}$ (ii) $(-24)^{\left(\frac{9}{7}\right)}$ (iii) $(-26)^{\left(\frac{9}{5}\right)}$

(iv) $(-24)^{\left(\frac{9}{5}\right)}$ (v) $(-24)^3$

14. Find the prime factorization of 1024

(i) 2^{10} (ii) 2^9 (iii) 4^{10}

(iv) 2^{11} (v) 2^8

15. Find the prime factorization of 2304

(i) $2^8 \times 1$ (ii) $2^7 \times 3^2$ (iii) $4^8 \times 3^2$

$$(iv) 2^8 \times 3^2 \quad (v) 2^9 \times 3^2$$

Assignment Key

- 1) (i)
- 2) (i)
- 3) (iv)
- 4) (i)
- 5) (i)
- 6) (ii)
- 7) (iii)
- 8) (iii)
- 9) (ii)
- 10) (ii)
- 11) (v)
- 12) (iii)
- 13) (iv)
- 14) (i)
- 15) (iv)