EduSahara™ Worksheet

Name : Chapter Based Worksheet

Chapter : Exponents and Powers

Grade : SSC Grade VIII

1. Simplify the expression $\left(\frac{5}{3}\right)^{4} \times \left(\frac{7}{4}\right)^{4} \times \left(\frac{7}{2}\right)^{4}$

(i) $\left(\frac{83}{12}\right)^{2}$ (ii) $\left(\frac{83}{12}\right)^{7}$ (iii) $\left(\frac{83}{12}\right)^{4}$ (iv) $\left(\frac{95}{14}\right)^{4}$ (v) $\left(\frac{71}{10}\right)^{4}$

2. The multiplicative inverse of $\left(\frac{1}{5}\right)^{5}$ is

(i) 1 (ii) 0 (iii) $\left(\frac{1}{5}\right)^{-5}$ (iv) $\left(\frac{-1}{5}\right)^{5}$ (v) 5^{-5}

3. $\left[\left(\frac{8}{5}\right)^{-8} \times \left(\frac{2}{4}\right)^{-8}\right] \div \left[\left(\frac{5}{8}\right)^{8} \times \left(\frac{4}{2}\right)^{8}\right] =$

(i) 1 (ii) $\frac{2}{4}$ (iii) (-1) (iv) $\frac{8}{5}$ (v) 0

4. $\sqrt[3]{0.0080} =$

(i) 0.2 (ii) 0.3 (iii) 0.1 (iv) 0.4 (v) 0.02

5. The value of $(-4)^{2} - 4^{3}$

(i) -48 (ii) -49 (iii) -46 (iv) -50 (v) $(-48)^{2}$

6. The value of $\left(\frac{-3}{2}\right)^{-2} + \left(\frac{-2}{3}\right)^{-3}$

(i) $\left(\frac{-209}{72}\right)$ (ii) $\left(\frac{-71}{24}\right)$ (iii) $\left(\frac{-211}{72}\right)$ (iv) $\left(\frac{-211}{70}\right)$ (v) $\left(\frac{-211}{72}\right)^{2}$

7. If $n^{(u-1)} = op$, $o^{(v-1)} = pn$, $p^{(w-1)} = no$ then

a) $(u+v+w) = 1$
b) $uv + vw + wu = 1$
c) $uvw = 1$
d) $uv + vw + wu = uvw$
e) $uv + vw + wu = 0$

(i) {d} (ii) {a,d} (iii) {b,d} (iv) {c,e,d}

8. $-1^5 =$

(i) 0 (ii) -1 (iii) 1 (iv) ∞ (v) undefined

9. Simplify the expression $\left(\frac{-7}{4}\right)_3 \times \left(\frac{-7}{4}\right)_3$

(i) $\left(\frac{-9}{2}\right)_3$ (ii) $\left(\frac{-13}{4}\right)_3$ (iii) $\left(\frac{-7}{2}\right)_6$ (iv) 3^{-4} (v) $\left(\frac{-7}{2}\right)_3$

10. If $64^{(u+7)} = 256^{36} = 4^v$, find v

(i) 143 (ii) 144 (iii) 145 (iv) 142 (v) 146

11. The value of $\left(\frac{1}{2}\right)^3 \times \left(\frac{5}{3}\right)^2$

(i) $\frac{5}{14}$ (ii) $\frac{25}{72}$ (iii) $\frac{23}{72}$ (iv) $\left(\frac{25}{72}\right)^2$ (v) $\frac{3}{8}$

12. Simplify the expression $(-9)^{-8} \times (-4)^{-8} \times (-9)^{-8}$

(i) $(-326)^{-8}$ (ii) $(-322)^{-8}$ (iii) $(-324)^{-7}$ (iv) $(-324)^{-8}$ (v) $(-324)^{-9}$

13. Simplify the expression $(-2)^4 \times (-2)^4$

(i) $(-5)^8$ (ii) $(-2)^7$ (iii) $(-2)^8$ (iv) $(-2)^9$ (v) 1

14. The value of $\left(\frac{3}{2}\right)^2 + \left(\frac{4}{3}\right)^3$

(i) $\frac{499}{106}$ (ii) $\frac{499}{108}$ (iii) $\frac{497}{108}$ (iv) $\frac{167}{36}$ (v) $\left(\frac{499}{108}\right)^2$

15. Represent the given large number in scientific form
-16142610

(i) -1.614261×10^{9} (ii) -1.614261×10^{6} (iii) -1.614261×10^{5} (iv) -1.614261×10^{8} (v) -1.614261×10^{7}

16. Simplify the expression $\left(\frac{-9}{2}\right)_{2} \times \left(\frac{-8}{7}\right)_{2} \times \left(\frac{-6}{5}\right)_{2}$

(i) $\left(\frac{-479}{70}\right)_{2}$ (ii) $\left(\frac{-491}{72}\right)_{2}$ (iii) $\left(\frac{-479}{70}\right)_{(-1)}$ (iv) $\left(\frac{-467}{68}\right)_{2}$ (v) $\left(\frac{-479}{70}\right)_{4}$

17. $\left[\left(\frac{-5}{4}\right)_{(-5)}\right]^{-3} =$

(i) $\left(\frac{15}{4}\right)_{(-2)}$ (ii) $\left(\frac{9}{2}\right)_{(-5)}$ (iii) $\left(\frac{15}{4}\right)_{(-7)}$ (iv) $\left(\frac{15}{4}\right)_{(-5)}$ (v) $\left(\frac{7}{2}\right)_{(-5)}$

18. $\left(\frac{5}{3} \times \left(\frac{-9}{4}\right)\right)^{7/6} =$

(i) $\left(\frac{5}{3}\right)^{(7/6)} \times \left(\frac{-9}{4}\right)^{(7/4)}$ (ii) $\left(\frac{5}{3}\right)^{(7/6)} \times \left(\frac{-9}{4}\right)^{(7/6)}$ (iii) $\left(\frac{5}{3}\right)^{(7/6)} \times \left(\frac{-7}{4}\right)^{(7/6)}$ (iv) $\left(\frac{5}{3}\right)^{(7/6)} \times \left(\frac{-11}{4}\right)^{(7/6)}$

(v) $\left(\frac{5}{3}\right)^{(7/6)} \times \left(\frac{-9}{4}\right)^{(7/8)}$

19. The value of $3^{-2} \times (-3)^{-2}$

(i) 81^{-1} (ii) 84^{-1} (iii) 81^{-2} (iv) 82^{-1} (v) 78^{-1}

20. The value of $(-2)^{-3} \div (-2)^{-3}$

(i) 3^{-1} (ii) 2^{-1} (iii) $(-1)^{-1}$ (iv) 1

21. The multiplicative inverse of 6^{-8} is

(i) 0 (ii) 1 (iii) $\left(\frac{1}{6}\right)^{8}$ (iv) $(-6)^{-8}$ (v) 6^{8}

22. The value of $\left(\frac{-5}{3}\right)^2 - \left(\frac{2}{3}\right)^3$

(i) $\frac{23}{9}$ (ii) $\left(\frac{67}{27}\right)^2$ (iii) $\frac{67}{27}$ (iv) $\frac{65}{27}$ (v) $\frac{67}{25}$

23. Simplify the expression $3^5 \times 3^5$

(i) 3^{11} (ii) 5^{10} (iii) 3^{10} (iv) 3^9 (v) 3^8

24. If $a^u = b$, $b^v = c$ and $c^w = a$, then $uvw =$

(i) abc (ii) 1 (iii) -1 (iv) $(a+b+c)$ (v) 0

25. Represent the given small number in scientific form
0.00000455368

(i) 4.55368×10^{-5} (ii) 4.55368×10^{-8} (iii) 4.55368×10^{-6} (iv) 4.55368×10^{-7} (v) 4.55368×10^{-4}

Assignment Key

1) (iii)	2) (iii)	3) (i)	4) (i)	5) (i)	6) (iii)
7) (i)	8) (ii)	9) (v)	10) (ii)	11) (ii)	12) (iv)
13) (iii)	14) (ii)	15) (v)	16) (i)	17) (iv)	18) (ii)
19) (i)	20) (iv)	21) (v)	22) (iii)	23) (iii)	24) (ii)
25) (iii)					