EduSahara™ Worksheet

Name : Chapter Based Worksheet

Chapter : Exponents

Grade : SSC Grade VII

1. Simplify the expression $\left(\frac{9}{8}\right)^{(-5)} \times \left(\frac{9}{8}\right)^{(-5)} \times \left(\frac{9}{8}\right)^{(-5)}$

(i) $\left(\frac{27}{8}\right)^{(-7)}$ (ii) $\left(\frac{27}{8}\right)^{(-5)}$ (iii) $\left(\frac{7}{2}\right)^{(-5)}$ (iv) $\left(\frac{33}{10}\right)^{(-5)}$ (v) $\left(\frac{27}{8}\right)^{(-2)}$

2. $\left[\left(\frac{9}{7}\right)^{(-3/4)}\right]^{4/3} =$

(i) 1 (ii) $\left(\frac{11}{7}\right)^{-1}$ (iii) $\left(\frac{9}{7}\right)^{-2}$ (iv) $\left(\frac{9}{7}\right)^{-1}$

3. Find the exponential notation of
$17 \times 17 \times 17 \times 17 \times 17 \times 17 \times 17$

(i) 19^7 (ii) 17^8 (iii) 17^6 (iv) 15^7 (v) 17^7

4. $(-7 \times -2 \times -3)^6 =$

(i) $(-7)^6 \times (-2)^7 \times (-3)^7$ (ii) $(-7)^6 \times (-2)^6 \times (-3)^6$ (iii) $(-7)^6 \times 1 \times (-1)^6$ (iv) $(-7)^6 \times (-4)^6 \times (-6)^6$

(v) $(-7)^6 \times (-2)^5 \times (-3)^5$

5. $[(-2)^3]^5 =$

(i) $(-2)^{14}$ (ii) $(-2)^{16}$ (iii) $(-2)^{17}$ (iv) $(-5)^{15}$ (v) $(-2)^{15}$

6. $h \times h \times h =$

(i) $-2h^3$ (ii) $3h^3$ (iii) h^2 (iv) h^3 (v) h^4

7. $\left[\left(\frac{5}{2}\right)^{-4}\right]^{-4} =$

(i) $\left(\frac{7}{2}\right)^{16}$ (ii) $\left(\frac{3}{2}\right)^{16}$ (iii) $\left(\frac{5}{2}\right)^{16}$ (iv) $\left(\frac{5}{2}\right)^{17}$ (v) $\left(\frac{5}{2}\right)^{15}$

8. Simplify the expression $\left(\frac{-8}{9}\right)^{(5/2)} \times \left(\frac{-8}{9}\right)^{(5/2)} \times \left(\frac{-8}{9}\right)^{(5/2)}$

(i) $\left(\frac{-8}{9}\right)^{8}$ (ii) $\left(\frac{-10}{9}\right)^{(15/2)}$ (iii) $\left(\frac{-8}{9}\right)^{(29/4)}$ (iv) $\left(\frac{-2}{3}\right)^{(15/2)}$ (v) $\left(\frac{-8}{9}\right)^{(15/2)}$

9. The value of $5^2 \div 2^3$

(i) $\frac{27}{8}$ (ii) $\left(\frac{25}{8}\right)^{2}$ (iii) $\frac{25}{8}$ (iv) $\frac{23}{8}$ (v) $\frac{25}{6}$

10. $[(-5)^4]^{-5/2} =$

(i) $(-5)^{-9}$ (ii) $(-7)^{-10}$ (iii) $(-5)^{-10}$ (iv) $(-5)^{-11}$ (v) $(-3)^{-10}$

11. $\frac{5^7}{5^7} =$

(i) 5^{-1} (ii) 1 (iii) 5^{-2} (iv) 5 (v) 5^2

12. $j^2 =$

(i) $j \times j$ (ii) $j \times j \times j$ (iii) $-j \times j$ (iv) j (v) $4 \times j \times j$

13. Simplify the expression $(-3)^2 \times (-3)^3 \times (-3)^5$

(i) $(-5)^{10}$ (ii) $(-3)^{10}$ (iii) $(-3)^{12}$ (iv) $(-3)^{11}$ (v) $(-3)^9$

14. Simplify the expression $_5\left(\frac{9}{4}\right) \times _7\left(\frac{9}{4}\right) \times _6\left(\frac{9}{4}\right)$

(i) $_{210}\left(\frac{9}{4}\right)$ (ii) $_{213}\left(\frac{9}{4}\right)$ (iii) $_{210}\left(\frac{3}{2}\right)$ (iv) $_{210}\left(\frac{9}{2}\right)$ (v) $_{207}\left(\frac{9}{4}\right)$

15. Expand the following base power $\left(\frac{-3}{4}\right)^{4}$

(i) $\frac{81}{256}$ (ii) $\frac{625}{256}$ (iii) $\left(\frac{-27}{64}\right)$ (iv) $\left(\frac{-243}{1024}\right)$ (v) $\frac{1}{256}$

16. Expand the following base power 3^{-2}

(i) $\frac{1}{25}$ (ii) 1 (iii) $\frac{1}{27}$ (iv) $\frac{1}{3}$ (v) $\frac{1}{9}$

17. The power in the term 2^4 is

(i) 4 (ii) 1 (iii) 2 (iv) -2 (v) -4

18. Simplify the expression $\left(\frac{5}{2}\right)_{(-2)} \times \left(\frac{5}{2}\right)_{(-6)}$

(i) $\left(\frac{5}{2}\right)_{9}$ (ii) 12^5 (iii) $\left(\frac{5}{2}\right)_{12}$ (iv) $\left(\frac{5}{2}\right)_{14}$ (v) $\left(\frac{5}{4}\right)_{12}$

19. Write the given number in usual form 1.573082×10^7

(i) 1573082 (ii) 1573082000 (iii) 15730820 (iv) 157308.20000000001164 (v) 157308200

20. Represent the given small number in scientific form
-0.07912669

(i) -7.912669×10^{-3} (ii) -7.912669×10^{-1} (iii) -7.912669 (iv) -7.912669×10^{-4} (v) -7.912669×10^{-2}

21. If $m^{(v-1)} = no$, $n^{(w-1)} = om$, $o^{(x-1)} = mn$ then

a) $vw + wx + xv = 1$
b) $vw + wx + xv = 0$
c) $vw + wx + xv = vwx$
d) $vwx = 1$
e) $(v + w + x) = 1$

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

22. Expand the following base power 2^4

(i) 32 (ii) 625 (iii) 8 (iv) 2 (v) 16

23. Simplify the expression $\left(\frac{7}{6}\right)^{(6/5)} \times \left(\frac{7}{5}\right)^{(6/5)}$

(i) $\left(\frac{49}{30}\right)^{(6/7)}$ (ii) $\left(\frac{49}{30}\right)^{2}$ (iii) $\left(\frac{47}{30}\right)^{(6/5)}$ (iv) $\left(\frac{49}{30}\right)^{(6/5)}$ (v) $\left(\frac{17}{10}\right)^{(6/5)}$

Find the exponential notation of

24. $(\frac{-18}{11}) \times (\frac{-18}{11}) \times (\frac{-18}{11}) \times (\frac{-18}{11}) \times (\frac{-18}{11}) \times (\frac{-18}{11})$

(i) $(\frac{-16}{11})^{6}$ (ii) $(\frac{-18}{11})^{6}$ (iii) $(\frac{-18}{11})^{7}$ (iv) $(\frac{-20}{11})^{6}$ (v) $(\frac{-18}{11})^{5}$

25. If $9^{(s+3)} = 81^{12} = 3^{t}$, find t

(i) 51 (ii) 47 (iii) 49 (iv) 48 (v) 46

Assignment Key

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