EduSahara™ Assignment

Name : Base Power Expressions involving Variables

Chapter : Exponents

Grade : ICSE Grade VII

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1. $8n^{3}.4n^{9} =$

   (i) $12n^{27}$ (ii) $32n^{12}$ (iii) $12n^{12}$ (iv) $12n^{32}$ (v) $32n^{27}$

2. $2s^{8}.3s^{5}.4s^{3} =$

   (i) $9s^{16}$ (ii) $9s^{120}$ (iii) $24s^{16}$ (iv) $24s^{120}$ (v) $16s^{24}$

3. $5n^{8}.6n^{2}.9n^{2}.8n^{5} =$

   (i) $240n^{80}$ (ii) $19n^{80}$ (iii) $12n^{240}$ (iv) $19n^{12}$ (v) $2160n^{17}$

4. $-4s^{(-2)}.-7s^{(-8)} =$

   (i) $-10s^{28}$ (ii) $-11s^{16}$ (iii) $-11s^{(-10)}$ (iv) $28s^{(-10)}$ (v) $28s^{16}$

5. $-4x^{4}.-7x^{(-6)}.-6x^{7} =$

   (i) $-17x^{(-168)}$ (ii) $-168x^{5}$ (iii) $-17x^{5}$ (iv) $-168x^{(-168)}$ (v) $5x^{(-168)}$

6. $-9r^{(-9)}.-2r^{(-3)}.-7r^{(-9)}.-3r^{6} =$

   (i) $-14r^{(-21)}$ (ii) $378r^{(-15)}$ (iii) $-14r^{162}$ (iv) $-54r^{162}$ (v) $-21r^{(-54)}$

7. Find the square root of $c^{4}d^{6}e^{4} =$

   (i) $c^{2}d^{3}e^{2}$ (ii) $\frac{1}{c^{4}d^{6}e^{4}}$ (iii) cde^{96} (iv) cde^{14} (v) $(c^{4}d^{6}e^{4})^{2}$

8. $2r^{(-8)}s^{(-9)}.-8r^{(-5)}s^{7} =$

   (i) $16r^{(-13)}s^{(-16)}$ (ii) $-6r^{(-13)}s^{(-2)}$ (iii) $-16r^{(-8)}s^{(-9)}$ (iv) $10r^{(-13)}s^{(-2)}$ (v) $-16r^{(-13)}s^{(-2)}$

9. $(w^{6})^{8} =$

   (i) w^{48} (ii) w^{2} (iii) w^{6} (iv) $8w^{6}$ (v) w^{14}

10. $\frac{i^{18}}{i^{9}} =$

    (i) i^{27} (ii) $18i^{9}$ (iii) $9i^{9}$ (iv) i^{9} (v) i^{162}

11. $(n^4 o^4)^3 =$

(i) $n^{12} o^{12}$ (ii) $3 n^{12} o^{12}$ (iii) $n^7 o^7$ (iv) $3 n^7 o^7$ (v) $3 n^4 o^4$

12. $(-5 v^6 w^2)^4 =$

(i) $625 v^{24} w^8$ (ii) $-20 v^{24} w^8$ (iii) $-5 v^{24} w^8$ (iv) $-20 v^{10} w^6$ (v) $625 v^{10} w^6$

13. $\left(\frac{b^{15}}{b^4}\right)^3 =$

(i) $3 b^{19}$ (ii) b^{180} (iii) $3 b^{11}$ (iv) b^{33} (v) b^{57}

14. $\left(\frac{c^6 d^7}{e^6}\right)^8 =$

(i) $\left(\frac{8 c^6 d^7}{8 e^6}\right)$ (ii) $\left(\frac{c^{14} d^{15}}{e^{14}}\right)$ (iii) $\left(\frac{c^{48} d^{56}}{e^{14}}\right)$ (iv) $\left(\frac{c^{14} d^{15}}{e^{48}}\right)$ (v) $\left(\frac{c^{48} d^{56}}{e^{48}}\right)$

15. $\frac{m^{20} n^{11}}{m^3 n^4} =$

(i) $m^{23} n^{15}$ (ii) $m^{17} n^7$ (iii) $m^{31} n^7$ (iv) $m^{17} n^{15}$ (v) $m^{23} n^7$

16. $\frac{d^2}{d^{18}} =$

(i) d^{16} (ii) $\frac{1}{d^{36}}$ (iii) $\frac{1}{d^{(-16)}}$ (iv) $\frac{1}{d^{16}}$ (v) $\frac{1}{d^{20}}$

17. $(p^4)^{(q+2)} =$

(i) $p^{(4q+8)}$ (ii) $p^{(4q-8)}$ (iii) $p^{(q+12)}$ (iv) $p^{(q+10)}$ (v) $p^{(4q+6)}$

18. $\left(\frac{s^3}{t^6}\right)^y =$

(i) $\frac{t^{6y}}{s^{3y}}$ (ii) $s^{3y} . t^{6y}$ (iii) $s^{3y} . - t^{6y}$ (iv) $\frac{s^{3y}}{t^{6y}}$

19. $\left(\frac{i^{(15n-4)}}{i^{(-8n-3)}}\right) =$

(i) $i^{(56n^2-15n-42)}$ (ii) i^{23n} (iii) $i^{(7n-7)}$ (iv) $i^{(23n-1)}$ (v) $i^{(9n-11)}$

20. $\left(\frac{h^4}{h^5}\right)^6 =$

(i) h^5 (ii) h^9 (iii) $6\,h^{(-6)}$ (iv) $h^{(-6)}$ (v) h^4

21. $\left(c^{25c}\right)^5 =$

(i) c^{25c} (ii) $5\,c^{125c}$ (iii) $c^{(25c+5)}$ (iv) c^{125c}

22. $\left(m^2 . n^{(-3)}\right)^3 =$

(i) $m^6 . n^{(-9)}$ (ii) $m^5 .1$ (iii) $m^4 . n^{(-9)}$ (iv) $m^6 . n^{(-6)}$ (v) $m^{(-1)} . n^{(-6)}$

23. $\left((s^2)^{(-3)}\right)^{-3} =$

(i) s^{18} (ii) s^8 (iii) $s^{(-4)}$ (iv) $s^{(-9)}$ (v) $s^{(-3)}$

24. $\left(4\,s^3 .4\,t^{(-4)}\right)^{-1} =$

(i) $\frac{s^4}{16\,t^{(-3)}}$ (ii) $t^4 .16\,s^{(-3)}$ (iii) $\frac{t^4}{16\,s^3}$ (iv) $\frac{-4\,t^4}{-4\,s^{(-3)}}$ (v) $\frac{4\,t^4}{4\,s^{(-3)}}$

25. $(f+g)^6 . (f+g)^{(-2)} =$

(i) $(f+g)^{(-2)}$ (ii) $(f+g)^{(-12)}$ (iii) $(f+g)^6$ (iv) $(f+g)^8$ (v) $(f+g)^4$

26. $\left(\frac{4\,h^5}{2\,i^4}\right)^{-4} =$

(i) $\frac{256\,h}{16}$ (ii) $\frac{16\,i^{16}}{256\,h^{20}}$ (iii) $\frac{16\,h^{(-20)}}{256\,i^4}$ (iv) $\frac{256\,h^{(-20)}}{16\,i^{(-16)}}$ (v) $\frac{16\,h}{256}$

27. $\frac{5\,f^{(-10)}}{8\,g^{(-7)}} =$

(i) $\frac{8\,g^7}{5\,f^{10}}$ (ii) $\frac{5\,g^{(-7)}}{8\,f^{(-10)}}$ (iii) $\frac{5\,f^7}{8\,g^{10}}$ (iv) $\frac{5\,g^7}{8\,f^{10}}$ (v) $\frac{8\,g^{(-7)}}{5\,f^{(-10)}}$

28. Which of the following statements are true?

a) $a.x^m = a^m.x^m$

b) $a^m.a^n = a^{mn}$

c) $\left(x^m\right)^n = \left(x^n\right)^m$

d) $a^0 = 1 \quad (a \neq 0)$

e) $\frac{x^m}{x^n} = x^{\frac{m}{n}}$

f) $\left(x^m\right)^n = x^{(m+n)}$

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

29. Simplify $\left(\frac{8^p.81^{(p-2)}.100^{(p-2)}}{64^{(p-2)}.9^{(p-2)}.10^{(p-3)}}\right)$

(i) $8^2.9^0.10^1$ (ii) $8^{(-p+4)}.9^{(p-2)}.10^{(p-1)}$ (iii) $8^{(p+2)}.9^{(-p+2)}.10^{(-p+4)}$

(iv) $8^{(-p+4)}.9^{(-p+2)}.10^{(-p+4)}$

30. $\left(h^6 + i^6\right)^0 =$

(i) $h^6 + i^6$ (ii) (-2) (iii) 4 (iv) 1 (v) 0

31. $\left(\frac{2}{3}def\right) \times \left(2e^9f^5\right) \times \left(-\frac{5}{4}f^4\right) =$

(i) $\frac{25}{8}e^{13}f^{14}$ (ii) $-\frac{5}{3}de^{14}f^{11}$ (iii) $-\frac{5}{3}de^{10}f^{10}$ (iv) $\frac{25}{24}f^{10}de^5$ (v) $\frac{4}{3}de^{10}f^6$

Assignment Key

1) (ii)	2) (iii)	3) (v)	4) (iv)	5) (ii)	6) (ii)
7) (i)	8) (v)	9) (i)	10) (iv)	11) (i)	12) (i)
13) (iv)	14) (v)	15) (ii)	16) (iv)	17) (i)	18) (iv)
19) (iv)	20) (iv)	21) (iv)	22) (i)	23) (i)	24) (iii)
25) (v)	26) (ii)	27) (iv)	28) (iii)	29) (ii)	30) (iv)
31) (iii)					

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