EduSahara™ Assignment

Name : Base Power Expressions involving Variables

Chapter : Exponents

Grade : ICSE Grade VII

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1. $2f^{9}.7f^{7} =$

(i) $9f^{16}$ (ii) $14f^{63}$ (iii) $9f^{63}$ (iv) $16f^{14}$ (v) $14f^{16}$

2. $3a^{8}.9a^{3}.5a^{4} =$

(i) $17a^{15}$ (ii) $135a^{15}$ (iii) $15a^{135}$ (iv) $17a^{96}$ (v) $135a^{96}$

3. $4x^{3}.7x^{5}.9x^{4}.6x^{4} =$

(i) $12x^{168}$ (ii) $1512x^{16}$ (iii) $17x^{60}$ (iv) $168x^{60}$ (v) $17x^{12}$

4. $-3s^{6}.-6s^{(-3)} =$

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

5. $-9t^{3}.-5t^{(-2)}.-2t^{6} =$

(i) $7t^{(-90)}$ (ii) $-90t^{(-36)}$ (iii) $-16t^{7}$ (iv) $-16t^{(-36)}$ (v) $-90t^{7}$

6. $-2f^{9}.-4f^{(-5)}.-8f^{(-5)}.-6f^{(-3)} =$

(i) $384f^{(-4)}$ (ii) $-48f^{135}$ (iii) $-12f^{135}$ (iv) $-12f^{(-1)}$ (v) $-f^{(-48)}$

7. Find the square root of $c^{4}d^{2}e^{4} =$

(i) $(c^{4}d^{2}e^{4})^{2}$ (ii) cde^{32} (iii) $\frac{1}{c^{4}d^{2}e^{4}}$ (iv) $c^{2}de^{2}$ (v) cde^{10}

8. $9k^{(-9)}/^{7}.-2k^{4}/^{(-4)} =$

(i) $-18k^{(-5)}/^{3}$ (ii) $18k^{(-5)}/^{11}$ (iii) $11k^{(-5)}/^{3}$ (iv) $7k^{(-5)}/^{3}$ (v) $-18k^{(-9)}/^{7}$

9. $(j^{5})^{5} =$

(i) j^{10} (ii) j^{25} (iii) $5j^{5}$ (iv) 1 (v) j^{5}

10. $\frac{a^{18}}{a^{6}} =$

(i) a^{12} (ii) a^{24} (iii) $6a^{12}$ (iv) a^{108} (v) $18a^{12}$

11. $(t^3u^3)^8 =$

(i) $t^{11}u^{11}$ (ii) $8t^3u^3$ (iii) $t^{24}u^{24}$ (iv) $8t^{11}u^{11}$ (v) $8t^{24}u^{24}$

12. $(-3m^2n^4)^3 =$

(i) $-27m^5n^7$ (ii) $-9m^6n^{12}$ (iii) $-27m^6n^{12}$ (iv) $-3m^6n^{12}$ (v) $-9m^5n^7$

13. $\left(\frac{b^{20}}{b^6}\right)^6 =$

(i) $6b^{26}$ (ii) b^{720} (iii) $6b^{14}$ (iv) b^{156} (v) b^{84}

14. $\left(\frac{i^9j^5}{k^2}\right)^3 =$

(i) $\left(\frac{i^{27}j^{15}}{k^6}\right)$ (ii) $\left(\frac{i^{12}j^8}{k^5}\right)$ (iii) $\left(\frac{i^{12}j^8}{k^6}\right)$ (iv) $\left(\frac{3i^9j^5}{3k^2}\right)$ (v) $\left(\frac{i^{27}j^{15}}{k^5}\right)$

15. $\frac{g^{16}h^{16}}{g^4h^5} =$

(i) $g^{20}h^{21}$ (ii) $g^{32}h^9$ (iii) $g^{12}h^{11}$ (iv) $g^{12}h^{21}$ (v) $g^{20}h^{11}$

16. $\frac{p^3}{p^{15}} =$

(i) $\frac{1}{p^{(-12)}}$ (ii) $\frac{1}{p^{12}}$ (iii) $\frac{1}{p^{18}}$ (iv) $\frac{1}{p^{45}}$ (v) p^{12}

17. $(u^5)^{(v+8)} =$

(i) $u^{(5v+13)}$ (ii) $u^{(5v+40)}$ (iii) $u^{(5v-40)}$ (iv) $u^{(v+45)}$ (v) $u^{(v+18)}$

18. $\left(\frac{b^4}{c^9}\right)^h =$

(i) $b^{4h}.c^{9h}$ (ii) $b^{4h}.-c^{9h}$ (iii) $\frac{c^{9h}}{b^{4h}}$ (iv) $\frac{b^{4h}}{c^{9h}}$

19. $\left(\frac{m^{(-4o-6)}}{m^{(-5o+8)}}\right) =$

(i) $m^{(o-14)}$ (ii) $m^{(o-13)}$ (iii) $m^{(-12o^2+17o+1)}$ (iv) $m^{(-9o+2)}$ (v) $m^{(13o-8)}$

20. $\left(\frac{e^{8}}{e^{7}}\right)^{9}$ =

(i) e^{8} (ii) e^{9} (iii) $9\,e^{9}$ (iv) e^{7} (v) e^{15}

21. $\left(m^{18m}\right)^{4}$ =

(i) m^{18m} (ii) $4\,m^{72m}$ (iii) m^{72m} (iv) $m^{(18m+4)}$

22. $\left(c^{2}.d^{4}\right)^{-3}$ =

(i) $c^{(-1)}.d$ (ii) $c^{(-6)}.d^{(-16)}$ (iii) $c^{5}.d^{7}$ (iv) $c^{(-6)}.d^{(-12)}$ (v) $c^{(-8)}.d^{(-12)}$

23. $\left((s^{2})^{(-9)}\right)^{4}$ =

(i) $s^{(-3)}$ (ii) $s^{(-72)}$ (iii) $s^{(-22)}$ (iv) $s^{(-14)}$ (v) s^{7}

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

(i) $\frac{3\,t^{16}}{4\,s^{(-12)}}$ (ii) $\frac{t^{16}}{20736\,s^{12}}$ (iii) $t^{16}.20736\,s^{(-12)}$ (iv) $\frac{-12\,t^{16}}{-16\,s^{(-12)}}$ (v) $\frac{s^{16}}{20736\,t^{(-12)}}$

25. $(u+v)^{(-9)}.(u+v)^{(-6)}$ =

(i) $(u+v)^{(-6)}$ (ii) $(u+v)^{(-15)}$ (iii) $(u+v)^{54}$ (iv) $(u+v)^{(-3)}$ (v) $(u+v)^{(-9)}$

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

(i) $\frac{1}{h^{2}}$ (ii) $\frac{g^{(-4)}}{h^{(-8)}}$ (iii) $\frac{h^{8}}{g^{4}}$ (iv) $\frac{g^{(-4)}}{h^{4}}$

27. $\frac{5\,a^{(-4)}}{9\,c^{(-9)}}$ =

(i) $\frac{5\,a^{9}}{9\,c^{4}}$ (ii) $\frac{5\,c^{(-9)}}{9\,a^{(-4)}}$ (iii) $\frac{9\,c^{9}}{5\,a^{4}}$ (iv) $\frac{5\,c^{9}}{9\,a^{4}}$ (v) $\frac{9\,c^{(-9)}}{5\,a^{(-4)}}$

28. Which of the following statements are true?

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

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

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

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

e) $(x^m)^n = x^{(m+n)}$

f) $(x^m)^n = (x^n)^m$

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

29. Simplify $\left(\frac{6^j.49^{(j-4)}.64^{(j-2)}}{36^{(j-4)}.7^{(j-2)}.8^{(j-1)}}\right)$

(i) $6^{(j+4)}.7^{(-j)}.8^{(-j)}$ (ii) $6^{(-j+8)}.7^{(-j)}.8^{(-j)}$ (iii) $6^4.7^{(-2)}.8^{(-1)}$ (iv) $6^{(-j+8)}.7^{(j-6)}.8^{(j-3)}$

30. $(b^8 + c^8)^0 =$

(i) 0 (ii) (-1) (iii) 3 (iv) 1 (v) $b^8 + c^8$

31. $\left(\frac{3}{4}klm\right) \times \left(-5l^7m^4\right) \times \left(-\frac{1}{5}m^5\right) =$

(i) $\frac{3}{100}m^{10}kl^6$ (ii) $\frac{3}{4}kl^8m^{10}$ (iii) $-\frac{15}{4}kl^8m^5$ (iv) $\frac{3}{4}kl^{13}m^9$ (v) $-\frac{1}{5}l^{12}m^{13}$

Assignment Key

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

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