EduSahara™ Assignment

Name : Base Power Expressions involving Variables

Chapter : Exponents

Grade : ICSE Grade VII

1. $4k^4.3k^2 =$

(i) $6k^{12}$ (ii) $12k^8$ (iii) $7k^8$ (iv) $12k^6$ (v) $7k^6$

2. $6j^7.9j^7.8j^2 =$

(i) $23j^{98}$ (ii) $16j^{432}$ (iii) $432j^{16}$ (iv) $23j^{16}$ (v) $432j^{98}$

3. $9r^5.5r^7.4r^7.7r^5 =$

(i) $19r^{315}$ (ii) $21r^{175}$ (iii) $315r^{175}$ (iv) $1260r^{24}$ (v) $21r^{19}$

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

(i) $15f^{(-45)}$ (ii) $-4f^{15}$ (iii) $-8f^{(-45)}$ (iv) $-8f^{(-4)}$ (v) $15f^{(-4)}$

5. $-5p^{(-4)}.-8p^4.-3p^5 =$

(i) $-120p^{(-80)}$ (ii) $-120p^5$ (iii) $-16p^5$ (iv) $-16p^{(-80)}$ (v) $5p^{(-120)}$

6. $-9r^{(-3)}.-2r^6.-3r^{(-6)}.-4r^{(-2)} =$

(i) $-72r^{36}$ (ii) $-15r^{(-3)}$ (iii) $-15r^{36}$ (iv) $216r^{(-5)}$ (v) $-3r^{(-72)}$

7. Find the square root of $q^4r^4s^4 =$

(i) $q^2r^2s^2$ (ii) $\frac{1}{q^4r^4s^4}$ (iii) qrs^{12} (iv) $(q^4r^4s^4)^2$ (v) qrs^{64}

8. $9f^9g^5.-5f^{(-3)}g^{(-8)} =$

(i) $-45f^9g^5$ (ii) $14f^6g^{(-3)}$ (iii) $45f^6g^{13}$ (iv) $-45f^6g^{(-3)}$ (v) $4f^6g^{(-3)}$

9. $(j^4)^8 =$

(i) j^{12} (ii) $8j^4$ (iii) j^{32} (iv) j^4

10. $\frac{d^{17}}{d^2} =$

(i) d^{15} (ii) d^{34} (iii) d^{19} (iv) $2d^{15}$ (v) $17d^{15}$

11. $(k^{6}/^{6})^{4} =$

(i) $k^{24}/^{24}$ (ii) $4\,k^{10}/^{10}$ (iii) $4\,k^{24}/^{24}$ (iv) $4\,k^{6}/^{6}$ (v) $k^{10}/^{10}$

12. $(-5r^{5}s^{4})^{3} =$

(i) $-125\,r^{8}s^{7}$ (ii) $-15\,r^{15}s^{12}$ (iii) $-15\,r^{8}s^{7}$ (iv) $-125\,r^{15}s^{12}$ (v) $-5\,r^{15}s^{12}$

13. $\left(\frac{q^{16}}{q^{10}}\right)^{6} =$

(i) $6q^{26}$ (ii) q^{960} (iii) $6q^{6}$ (iv) q^{156} (v) q^{36}

14. $\left(\frac{n^{6}o^{7}}{p^{9}}\right)^{7} =$

(i) $\left(\frac{7\,n^{6}o^{7}}{7\,p^{9}}\right)$ (ii) $\left(\frac{n^{42}o^{49}}{p^{63}}\right)$ (iii) $\left(\frac{n^{13}o^{14}}{p^{63}}\right)$ (iv) $\left(\frac{n^{13}o^{14}}{p^{16}}\right)$ (v) $\left(\frac{n^{42}o^{49}}{p^{16}}\right)$

15. $\frac{g^{19}h^{11}}{g^{8}h^{5}} =$

(i) $g^{27}h^{6}$ (ii) $g^{30}h^{13}$ (iii) $g^{27}h^{16}$ (iv) $g^{11}h^{6}$ (v) $g^{11}h^{16}$

16. $\frac{q^{7}}{q^{12}} =$

(i) $\frac{1}{q^{(-5)}}$ (ii) q^{5} (iii) $\frac{1}{q^{84}}$ (iv) $\frac{1}{q^{5}}$ (v) $\frac{1}{q^{19}}$

17. $(m^{2})^{(n+4)} =$

(i) $m^{(n+10)}$ (ii) $m^{(n+8)}$ (iii) $m^{(2n+6)}$ (iv) $m^{(2n-8)}$ (v) $m^{(2n+8)}$

18. $\left(\frac{b^{6}}{c^{7}}\right)^{e} =$

(i) $b^{6e}.c^{7e}$ (ii) $\frac{b^{6e}}{c^{7e}}$ (iii) $\frac{c^{7e}}{b^{6e}}$ (iv) $b^{6e}.-c^{7e}$

19. $\left(\frac{n^{(-r+5)}}{n^{(-5r+6)}}\right) =$

(i) $n^{(4r-1)}$ (ii) $n^{(-6r+11)}$ (iii) n^{4r} (iv) $n^{(-30r^{2}+52r-20)}$ (v) $n^{(-6r+3)}$

20. $\left(\frac{a^{12}}{a^{3}}\right)^{3} =$

(i) a^{12} (ii) a^{15} (iii) a^{27} (iv) $3\,a^{27}$ (v) a^{3}

21. $\left(f^{17f}\right)^{5} =$

(i) $f^{(17f+5)}$ (ii) f^{17f} (iii) $5\,f^{85f}$ (iv) f^{85f}

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

(i) $c^{(-6)}.\,d^{(-7)}$ (ii) $c^{(-9)}.\,d^{(-12)}$ (iii) $1.\,d^{(-1)}$ (iv) $c^{(-6)}.\,d^{(-12)}$ (v) $c^{(-9)}.\,d^{(-8)}$

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

(i) b^{9} (ii) $b^{(-5)}$ (iii) b^{5} (iv) $b^{(-36)}$ (v) $b^{(-13)}$

24. $\left(2\,s^{4}.2\,t^{(-2)}\right)^{-3} =$

(i) $t^{6}.64\,s^{(-12)}$ (ii) $\frac{-6\,t^{6}}{-6\,s^{(-12)}}$ (iii) $\frac{2\,t^{6}}{2\,s^{(-12)}}$ (iv) $\frac{t^{6}}{64\,s^{12}}$ (v) $\frac{s^{6}}{64\,t^{(-12)}}$

25. $(n-o)^{(-2)}.(n-o)^{8} =$

(i) $(n-o)^{6}$ (ii) $(n-o)^{(-10)}$ (iii) $(n-o)^{(-16)}$ (iv) $(n-o)^{8}$ (v) $(n-o)^{(-2)}$

26. $\left(\frac{e^{4}}{4\,f^{4}}\right)^{-2} =$

(i) $\frac{e^{(-8)}}{16\,f^{(-8)}}$ (ii) $\frac{16\,f^{8}}{e^{8}}$ (iii) $\frac{e^{2}}{16\,f^{2}}$ (iv) $\frac{16\,e^{(-8)}}{f^{4}}$ (v) $\frac{16\,e^{2}}{f^{2}}$

27. $\frac{i^{(-4)}}{2\,n^{(-6)}} =$

(i) $\frac{n^{(-6)}}{2\,i^{(-4)}}$ (ii) $\frac{i^{6}}{2\,n^{4}}$ (iii) $\frac{2\,n^{(-6)}}{i^{(-4)}}$ (iv) $\frac{n^{6}}{2\,i^{4}}$ (v) $\frac{2\,n^{6}}{i^{4}}$

28. Which of the following statements are true?

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

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

c) $a^{0} = 1 \ (a \neq 0)$

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

e) $a.x^{m} = a^{m}.x^{m}$

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

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

29. Simplify $\left(\frac{5^{h}.36^{(h-4)}.49^{(h-2)}}{25^{(h-4)}.6^{(h-2)}.7^{(h-1)}}\right)$

(i) $5^{4}.6^{(-2)}.7^{(-1)}$ (ii) $5^{(h+4)}.6^{(-h)}.7^{(-h)}$ (iii) $5^{(-h+8)}.6^{(h-6)}.7^{(h-3)}$

(iv) $5^{(-h+8)}.6^{(-h)}.7^{(-h)}$

30. $\left(c^{6}+d^{6}\right)^{0} =$

(i) 4 (ii) $c^{6}+d^{6}$ (iii) 0 (iv) 1 (v) (-1)

31. $\left(\frac{1}{6}cde\right)\times\left(3d^{3}e^{7}\right)\times\left(-\frac{4}{3}e^{2}\right) =$

(i) $\frac{8}{27}e^{10}cd^{3}$ (ii) $\frac{1}{2}cd^{4}e^{8}$ (iii) $-\frac{2}{3}cd^{6}e^{15}$ (iv) $-\frac{2}{3}cd^{4}e^{10}$ (v) $\frac{16}{3}d^{5}e^{16}$

Assignment Key

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