EduSahara™ Assignment

Name : Base Power Expressions involving Variables

Chapter : Exponents

Grade : ICSE Grade VII

1. $4s^4.9s^5 =$

(i) $13s^9$ (ii) $36s^{20}$ (iii) $9s^{36}$ (iv) $13s^{20}$ (v) $36s^9$

2. $4c^6.7c^9.2c^6 =$

(i) $13c^{21}$ (ii) $21c^{56}$ (iii) $56c^{21}$ (iv) $56c^{324}$ (v) $13c^{324}$

3. $3k^2.5k^4.8k^9.4k^4 =$

(i) $12k^{32}$ (ii) $12k^{15}$ (iii) $60k^{32}$ (iv) $480k^{19}$ (v) $15k^{60}$

4. $-5g^4.-9g^{(-7)} =$

(i) $45g^{(-28)}$ (ii) $-3g^{45}$ (iii) $45g^{(-3)}$ (iv) $-14g^{(-28)}$ (v) $-14g^{(-3)}$

5. $-2d^{(-8)}.-6d^5.-4d^8 =$

(i) $5d^{(-48)}$ (ii) $-12d^5$ (iii) $-48d^5$ (iv) $-12d^{(-320)}$ (v) $-48d^{(-320)}$

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

(i) $7s^{(-162)}$ (ii) $-18s^7$ (iii) $-162s^{(-18)}$ (iv) $-18s^{(-18)}$ (v) $648s^{10}$

7. Find the square root of $s^6t^4u^2 =$

(i) $(s^6t^4u^2)^2$ (ii) $\frac{1}{s^6t^4u^2}$ (iii) stu^{12} (iv) stu^{48} (v) s^3t^2u

8. $4r^3s^{(-9)}.-9r^7s^{(-2)} =$

(i) $36r^{10}s^{(-7)}$ (ii) $-36r^{10}s^{(-11)}$ (iii) $-5r^{10}s^{(-11)}$ (iv) $13r^{10}s^{(-11)}$ (v) $-36r^3s^{(-9)}$

9. $(i^6)^6 =$

(i) 1 (ii) i^{36} (iii) i^6 (iv) i^{12} (v) $6i^6$

10. $\frac{x^{11}}{x^8} =$

(i) x^{88} (ii) $8x^3$ (iii) x^3 (iv) $11x^3$ (v) x^{19}

11. $(j^3k^6)^4 =$

(i) $4j^7k^{10}$ (ii) $4j^{12}k^{24}$ (iii) j^7k^{10} (iv) $4j^3k^6$ (v) $j^{12}k^{24}$

12. $(-4t^4u^6)^2 =$

(i) $-4t^8u^{12}$ (ii) $16t^8u^{12}$ (iii) $-8t^6u^8$ (iv) $16t^6u^8$ (v) $-8t^8u^{12}$

13. $\left(\frac{t^{14}}{t^3}\right)^4 =$

(i) $4t^{17}$ (ii) t^{68} (iii) t^{168} (iv) t^{44} (v) $4t^{11}$

14. $\left(\frac{x^8y^3}{z^7}\right)^4 =$

(i) $\left(\frac{4x^8y^3}{4z^7}\right)$ (ii) $\left(\frac{x^{32}y^{12}}{z^{11}}\right)$ (iii) $\left(\frac{x^{12}y^7}{z^{11}}\right)$ (iv) $\left(\frac{x^{32}y^{12}}{z^{28}}\right)$ (v) $\left(\frac{x^{12}y^7}{z^{28}}\right)$

15. $\frac{v^{10}w^{11}}{v^4w^7} =$

(i) $v^{14}w^4$ (ii) v^6w^{18} (iii) $v^{14}w^{18}$ (iv) v^6w^4 (v) $v^{21}w^{11}$

16. $\frac{j^7}{j^{11}} =$

(i) j^4 (ii) $\frac{1}{j^{18}}$ (iii) $\frac{1}{j^{77}}$ (iv) $\frac{1}{j^4}$ (v) $\frac{1}{j^{(-4)}}$

17. $(b^2)^{(c+2)} =$

(i) $b^{(2c-4)}$ (ii) $b^{(c+6)}$ (iii) $b^{(2c+4)}$

18. $\left(\frac{k^3}{l^9}\right)^o =$

(i) $\frac{l^{9o}}{k^{3o}}$ (ii) $\frac{k^{3o}}{l^{9o}}$ (iii) $k^{3o}.l^{9o}$ (iv) $k^{3o}.-l^{9o}$

19. $\left(\frac{k^{(-2p+11)}}{k^{(-9p+9)}}\right) =$

(i) $k^{(7p+2)}$ (ii) $k^{(-p-6)}$ (iii) $k^{(-24p^2+13p+19)}$ (iv) $k^{(7p+3)}$ (v) $k^{(-11p+20)}$

20. $\left(\frac{r^{11}}{r^{2}}\right)^{4} =$

(i) r^{13} (ii) r^{11} (iii) r^{2} (iv) r^{36} (v) $4\,r^{36}$

21. $\left(c^{26c}\right)^{4} =$

(i) c^{26c} (ii) c^{104c} (iii) $4\,c^{104c}$ (iv) $c^{(26c+4)}$

22. $\left(f^{4}.\,g^{(-2)}\right)^{2} =$

(i) $f^{2}.\,g^{(-4)}$ (ii) $f^{8}.\,g^{(-2)}$ (iii) $f^{6}.1$ (iv) $f^{4}.\,g^{(-4)}$ (v) $f^{8}.\,g^{(-4)}$

23. $\left(\left(c^{4}\right)^{(-3)}\right)^{3} =$

(i) c^{4} (ii) $c^{(-36)}$ (iii) $c^{(-9)}$ (iv) $c^{(-15)}$

24. $\left(4k.\,l^{(-4)}\right)^{-2} =$

(i) $\frac{-8\,l^{8}}{-2\,k^{(-2)}}$ (ii) $\frac{k^{8}}{16\,l^{(-2)}}$ (iii) $\frac{l^{8}}{16\,k^{2}}$ (iv) $\frac{4\,l^{8}}{k^{(-2)}}$ (v) $l^{8}.16\,k^{(-2)}$

25. $(d+e)^{4}.(d+e)^{(-3)} =$

(i) $(d+e)^{(-3)}$ (ii) $(d+e)^{4}$ (iii) $(d+e)$ (iv) $(d+e)^{(-12)}$ (v) $(d+e)^{7}$

26. $\left(\frac{3\,h^{6}}{4\,i^{5}}\right)^{-2} =$

(i) $\frac{16\,h^{4}}{9\,i^{3}}$ (ii) $\frac{9\,h^{(-12)}}{16\,i^{(-10)}}$ (iii) $\frac{9\,h^{4}}{16\,i^{3}}$ (iv) $\frac{16\,h^{(-12)}}{9\,i^{5}}$ (v) $\frac{16\,i^{10}}{9\,h^{12}}$

27. $\frac{i^{(-2)}}{8\,l^{(-6)}} =$

(i) $\frac{8\,l^{(-6)}}{i^{(-2)}}$ (ii) $\frac{8\,l^{6}}{i^{2}}$ (iii) $\frac{l^{6}}{8\,i^{2}}$ (iv) $\frac{i^{6}}{8\,l^{2}}$ (v) $\frac{l^{(-6)}}{8\,i^{(-2)}}$

28. Which of the following statements are true?

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

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

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

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

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

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

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

29. Simplify $\left(\frac{8^c.81^{(c-5)}.100^{(c-4)}}{64^{(c-5)}.9^{(c-4)}.10^{(c-5)}}\right)$

(i) $8^{(-c+10)}.9^{(-c+3)}.10^{(-c+6)}$ (ii) $8^5.9^{(-1)}.10^1$ (iii) $8^{(-c+10)}.9^{(c-6)}.10^{(c-3)}$

(iv) $8^{(c+5)}.9^{(-c+3)}.10^{(-c+6)}$

30. $\left(d^3 + e^3\right)^0 =$

(i) (-1) (ii) $d^3 + e^3$ (iii) 4 (iv) 1 (v) 0

31. $\left(\frac{1}{9}stu\right) \times \left(-6t^8u^9\right) \times \left(-\frac{9}{7}u^5\right) =$

(i) $\frac{9}{49}u^{15}st^6$ (ii) $\frac{6}{7}st^9u^{15}$ (iii) $\frac{6}{7}st^{14}u^{19}$ (iv) $-\frac{2}{3}st^9u^{10}$ (v) $-\frac{486}{49}t^{13}u^{23}$

Assignment Key

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