EduSahara™ Assignment

Name : Base Power Expressions involving Variables

Chapter : Exponents

Grade : ICSE Grade VII

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1. $7r^{6}.6r^{2} =$

(i) $13r^{12}$ (ii) $42r^{8}$ (iii) $42r^{12}$ (iv) $8r^{42}$ (v) $13r^{8}$

2. $2m^{5}.8m^{7}.9m^{3} =$

(i) $15m^{144}$ (ii) $144m^{105}$ (iii) $19m^{15}$ (iv) $19m^{105}$ (v) $144m^{15}$

3. $5q^{2}.8q^{3}.3q^{9}.9q^{9} =$

(i) $22q^{54}$ (ii) $1080q^{23}$ (iii) $14q^{360}$ (iv) $22q^{14}$ (v) $360q^{54}$

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

(i) $-15n^{12}$ (ii) $-8n^{54}$ (iii) $-15n^{(-8)}$ (iv) $54n^{12}$ (v) $54n^{(-8)}$

5. $-2e^{(-5)}.-8e^{2}.-7e^{(-2)} =$

(i) $-17e^{20}$ (ii) $-5e^{(-112)}$ (iii) $-112e^{20}$ (iv) $-112e^{(-5)}$ (v) $-17e^{(-5)}$

6. $-3r^{(-7)}.-8r^{(-2)}.-2r^{4}.-6r^{(-3)} =$

(i) $-144r^{(-42)}$ (ii) $-17r^{(-42)}$ (iii) $-5r^{(-144)}$ (iv) $288r^{(-8)}$ (v) $-17r^{(-5)}$

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

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

8. $9h^{(-7)}i^{(-3)}.-8h^{2}i^{(-5)} =$

(i) $72h^{(-5)}i^{2}$ (ii) $h^{(-5)}i^{(-8)}$ (iii) $-72h^{(-7)}i^{(-3)}$ (iv) $17h^{(-5)}i^{(-8)}$ (v) $-72h^{(-5)}i^{(-8)}$

9. $(h^{3})^{7} =$

(i) h^{4} (ii) h^{10} (iii) h^{21} (iv) h^{3} (v) $7h^{3}$

10. $\frac{i^{13}}{i^{7}} =$

(i) $7i^{6}$ (ii) i^{20} (iii) i^{91} (iv) $13i^{6}$ (v) i^{6}

11. $(g^2h^3)^8 =$

(i) $8g^2h^3$ (ii) $8g^{10}h^{11}$ (iii) $g^{16}h^{24}$ (iv) $8g^{16}h^{24}$ (v) $g^{10}h^{11}$

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

(i) $256v^9w^8$ (ii) $256v^{20}w^{16}$ (iii) $-16v^9w^8$ (iv) $-16v^{20}w^{16}$ (v) $-4v^{20}w^{16}$

13. $\left(\frac{j^{17}}{j^3}\right)^6 =$

(i) j^{84} (ii) $6j^{20}$ (iii) j^{120} (iv) j^{306} (v) $6j^{14}$

14. $\left(\frac{t^8u^9}{v^5}\right)^9 =$

(i) $\left(\frac{t^{17}u^{18}}{v^{45}}\right)$ (ii) $\left(\frac{9t^8u^9}{9v^5}\right)$ (iii) $\left(\frac{t^{72}u^{81}}{v^{14}}\right)$ (iv) $\left(\frac{t^{17}u^{18}}{v^{14}}\right)$ (v) $\left(\frac{t^{72}u^{81}}{v^{45}}\right)$

15. $\frac{i^{17}j^{18}}{i^5j^2} =$

(i) $i^{12}j^{20}$ (ii) $i^{22}j^{20}$ (iii) $i^{35}j^7$ (iv) $i^{22}j^{16}$ (v) $i^{12}j^{16}$

16. $\frac{f^7}{f^{17}} =$

(i) $\frac{1}{f^{10}}$ (ii) f^{10} (iii) $\frac{1}{f^{(-10)}}$ (iv) $\frac{1}{f^{24}}$ (v) $\frac{1}{f^{119}}$

17. $(m^5)^{(n+4)} =$

(i) $m^{(5n+20)}$ (ii) $m^{(n+25)}$ (iii) $m^{(5n+9)}$ (iv) $m^{(5n-20)}$ (v) $m^{(n+14)}$

18. $\left(\frac{e^3}{f^3}\right)^j =$

(i) $\frac{f^{3j}}{e^{3j}}$ (ii) $e^{3j}. - f^{3j}$ (iii) $e^{3j}.f^{3j}$ (iv) $\frac{e^{3j}}{f^{3j}}$

19. $\left(\frac{f^{(4k-9)}}{f^{(2k-2)}}\right) =$

(i) $f^{(6k-11)}$ (ii) $f^{(-12k^2-40k+16)}$ (iii) $f^{(2k-6)}$ (iv) $f^{(-10k-3)}$ (v) $f^{(2k-7)}$

20. $\left(\frac{j^{15}}{j^{8}}\right)^{5} =$

(i) $5j^{35}$ (ii) j^{23} (iii) j^{15} (iv) j^{8} (v) j^{35}

21. $\left(m^{23m}\right)^{4} =$

(i) $4m^{92m}$ (ii) m^{92m} (iii) $m^{(23m+4)}$ (iv) m^{23m}

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

(i) $s^{12}.t^{9}$ (ii) $s^{(-7)}.t^{(-6)}$ (iii) $s^{12}.t^{12}$ (iv) $s^{(-1)}.1$ (v) $s^{16}.t^{9}$

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

(i) $k^{(-4)}$ (ii) k^{7} (iii) $k^{(-1)}$ (iv) k^{12} (v) $k^{(-8)}$

24. $\left(2c^{3}.3d^{(-1)}\right)^{-3} =$

(i) $\frac{2d^{3}}{3c^{(-9)}}$ (ii) $d^{3}.216c^{(-9)}$ (iii) $\frac{-6d^{3}}{-9c^{(-9)}}$ (iv) $\frac{c^{3}}{216d^{(-9)}}$ (v) $\frac{d^{3}}{216c^{9}}$

25. $(n+o)^{(-2)}.(n+o)^{9} =$

(i) $(n+o)^{7}$ (ii) $(n+o)^{(-11)}$ (iii) $(n+o)^{(-2)}$ (iv) $(n+o)^{(-18)}$ (v) $(n+o)^{9}$

26. $\left(\frac{j^{4}}{2k^{5}}\right)^{-2} =$

(i) $\frac{4j^{(-8)}}{k^{5}}$ (ii) $\frac{j^{2}}{4k^{3}}$ (iii) $\frac{4j^{2}}{k^{3}}$ (iv) $\frac{4k^{10}}{j^{8}}$ (v) $\frac{j^{(-8)}}{4k^{(-10)}}$

27. $\frac{b^{(-10)}}{3c^{(-3)}} =$

(i) $\frac{b^{3}}{3c^{10}}$ (ii) $\frac{c^{3}}{3b^{10}}$ (iii) $\frac{3c^{3}}{b^{10}}$ (iv) $\frac{c^{(-3)}}{3b^{(-10)}}$ (v) $\frac{3c^{(-3)}}{b^{(-10)}}$

28. Which of the following statements are true?

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

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

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

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

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

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

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

29. Simplify $\left(\frac{7^h . 64^{(h-5)} . 81^{(h-5)}}{49^{(h-5)} . 8^{(h-5)} . 9^{(h-1)}}\right)$

(i) $7^{(-h+10)} . 8^{(h-5)} . 9^{(h-9)}$ (ii) $7^{(-h+10)} . 8^{(-h+5)} . 9^{(-h-3)}$ (iii) $7^5 . 8^0 . 9^{(-4)}$

(iv) $7^{(h+5)} . 8^{(-h+5)} . 9^{(-h-3)}$

30. $\left(c^{(-5)} + d^{(-5)}\right)^0 =$

(i) $c^{(-5)} + d^{(-5)}$ (ii) 3 (iii) 0 (iv) (-1) (v) 1

31. $\left(\frac{1}{4} qrs\right) \times \left(9 r^9 s^{10}\right) \times \left(-\frac{2}{3} s^3\right) =$

(i) $\frac{1}{9} s^{14} q r^4$ (ii) $\frac{9}{4} q r^{10} s^{11}$ (iii) $4 r^{12} s^{23}$ (iv) $-\frac{3}{2} q r^{13} s^{21}$ (v) $-\frac{3}{2} q r^{10} s^{14}$

Assignment Key

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

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