

EduSahara™ Learning Center Assignment**Grade : Class VII, CBSE****Chapter : Exponents and Powers****Name : Laws of Exponents****Licensed To : Teachers and Students for non-commercial use**

1. $(-5 \times 2)^6 =$

(i) $(-5)^6 \times 2^6$ (ii) $(-5)^6 \times 5^6$

(iii) $(-5)^6 \times 2^3$ (iv) $(-5)^6 \times 2^5$

(v) $(-5)^6 \times 2^7$

2. $(5 \times -9 \times -5)^{-5} =$

(i) $5^{-5} \times (-9)^{-6} \times (-5)^{-6}$ (ii) $5^{-5} \times (-9)^{-4} \times (-5)^{-4}$

(iii) $5^{-5} \times (-11)^{-5} \times (-8)^{-5}$ (iv) $5^{-5} \times (-6)^{-5} \times (-2)^{-5}$

(v) $5^{-5} \times (-9)^{-5} \times (-5)^{-5}$

3. $\left(\frac{9}{8} \times \left(\frac{-3}{7}\right)\right)^{-9} =$

(i) $\left(\frac{9}{8}\right)^{-9} \times \left(\frac{-3}{7}\right)^{-9}$ (ii) $\left(\frac{9}{8}\right)^{-9} \times \left(\frac{-5}{7}\right)^{-9}$

(iii) $\left(\frac{9}{8}\right)^{-9} \times \left(\frac{-3}{7}\right)^{-8}$ (iv) $\left(\frac{9}{8}\right)^{-9} \times \left(\frac{-3}{7}\right)^{-10}$

(v) $\left(\frac{9}{8}\right)^{-9} \times \left(\frac{-1}{7}\right)^{-9}$

4. $\left(\frac{7}{2} \times \frac{8}{3} \times \left(\frac{-8}{9}\right)\right)^{-5} =$

$$(i) \left(\frac{7}{2}\right)^{-5} \times \left(\frac{10}{3}\right)^{-5} \times \left(\frac{-2}{3}\right)^{-5} \quad (ii) \left(\frac{7}{2}\right)^{-5} \times 2^{-5} \times \left(\frac{-10}{9}\right)^{-5}$$

$$(iii) \left(\frac{7}{2}\right)^{-5} \times \left(\frac{8}{3}\right)^{-6} \times \left(\frac{-8}{9}\right)^{-6} \quad (iv) \left(\frac{7}{2}\right)^{-5} \times \left(\frac{8}{3}\right)^{-5} \times \left(\frac{-8}{9}\right)^{-5}$$

$$(v) \left(\frac{7}{2}\right)^{-5} \times \left(\frac{8}{3}\right)^{-4} \times \left(\frac{-8}{9}\right)^{-4}$$

5. $\left(\frac{-4}{7}\right)^2 =$

$$(i) \frac{(-4)^2}{7^2} \quad (ii) \frac{(-4)^3}{7^2} \quad (iii) \frac{(-4)^2}{10^2} \quad (iv) \frac{(-4)^2}{5^2} \quad (v) \frac{-4}{7^2}$$

6. $7^{-8} =$

$$(i) \frac{7^{-8}}{3^{-8}} \quad (ii) \frac{7^{-8}}{1} \quad (iii) \frac{7^{-8}}{(-1)^{-8}} \quad (iv) \frac{7^{-9}}{1} \quad (v) \frac{7^{-7}}{1}$$

7. $(-5)^3 =$

$$(i) \left(\frac{-1}{5}\right)^{-2} \quad (ii) \left(\frac{-3}{5}\right)^{-3} \quad (iii) \left(\frac{-1}{5}\right)^{-4} \quad (iv) \left(\frac{1}{5}\right)^{-3} \quad (v) \left(\frac{-1}{5}\right)^{-3}$$

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

$$(i) \left(\frac{1}{2}\right)^7 \quad (ii) \left(\frac{-1}{2}\right)^7 \quad (iii) \left(\frac{-3}{2}\right)^7 \quad (iv) \left(\frac{-1}{2}\right)^8 \quad (v) \left(\frac{-1}{2}\right)^6$$

9. $(-9)^{-6} =$

- (i) $\left(\frac{-1}{3}\right)^6$ (ii) $\left(\frac{-1}{9}\right)^6$ (iii) $\left(\frac{-1}{9}\right)^5$ (iv) $\left(\frac{-1}{9}\right)^7$ (v) $\left(\frac{1}{9}\right)^6$
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10. $\frac{(-4)^{-2}}{(-4)^{-8}} =$

- (i) $(-4)^7$ (ii) $(-4)^6$ (iii) $(-6)^6$ (iv) $(-1)^6$ (v) $(-4)^5$
-

11. $\frac{\left(\frac{-2}{5}\right)^{-5}}{\left(\frac{-2}{5}\right)^3} =$

- (i) $\left(\frac{-2}{5}\right)^{-7}$ (ii) $\left(\frac{-2}{5}\right)^{-5}$ (iii) $\left(\frac{-4}{5}\right)^{-8}$ (iv) $\left(\frac{-2}{5}\right)^{-9}$ (v) $\left(\frac{-2}{5}\right)^{-8}$
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12. $[(-2)^2]^4 =$

- (i) $(-2)^7$ (ii) $(-4)^8$ (iii) $(-2)^9$
(iv) 1 (v) $(-2)^8$
-

13. $[(-2)^{-3}]^5 =$

- (i) $(-2)^{-15}$ (ii) $(-2)^{-14}$ (iii) $(-5)^{-15}$

(iv) 1 (v) $(-2)^{-16}$

14. Simplify the expression $7^9 \times 7^9 \times 7^9$

(i) 9^{27} (ii) 7^{28} (iii) 5^{27}

(iv) 7^{26} (v) 7^{27}

15. Simplify the expression $3^{-2} \times 3^{-2}$

(i) 3^{-4} (ii) 5^{-4} (iii) 3^{-5}

(iv) 3^{-7} (v) 3^{-3}

16. Simplify the expression $(-5)^6 \times (-5)^6 \times (-5)^6$

(i) $(-3)^{18}$ (ii) $(-5)^{17}$ (iii) $(-5)^{18}$

(iv) $(-5)^{19}$ (v) $(-7)^{18}$

17. Simplify the expression $(-2)^{-3} \times (-2)^{-3}$

(i) $(-2)^{-5}$ (ii) $(-2)^{-7}$ (iii) 1

(iv) $(-2)^{-6}$ (v) $(-4)^{-6}$

18. Simplify the expression $\left(\frac{9}{8}\right)^6 \times \left(\frac{9}{8}\right)^6$

(i) $\left(\frac{9}{8}\right)^{13}$ (ii) $\left(\frac{11}{8}\right)^{12}$ (iii) $\left(\frac{7}{8}\right)^{12}$

(iv) $\left(\frac{9}{8}\right)^{12}$ (v) $\left(\frac{9}{8}\right)^{11}$

19. Simplify the expression $\left(\frac{5}{2}\right)^{-7} \times \left(\frac{5}{2}\right)^{-7}$

(i) $\left(\frac{5}{2}\right)^{-15}$ (ii) $\left(\frac{5}{2}\right)^{-13}$ (iii) $\left(\frac{5}{2}\right)^{-14}$

(iv) $\left(\frac{7}{2}\right)^{-14}$ (v) $\left(\frac{3}{2}\right)^{-14}$

20. Simplify the expression $2^5 \times 2^7 \times 2^2$

(i) 2^{13} (ii) 2^{14} (iii) 5^{14}

(iv) 2^{15} (v) 2^{12}

21. Simplify the expression $8^{-2} \times 8^{-2} \times 8^{-6}$

(i) 8^{-9} (ii) 8^{-11} (iii) 5^{-10}

(iv) 8^{-10} (v) 10^{-10}

22. Simplify the expression $(-8)^2 \times (-8)^3$

(i) $(-8)^4$ (ii) $(-11)^5$ (iii) $(-6)^5$

(iv) $(-8)^5$ (v) $(-8)^6$

23. Simplify the expression $(-5)^{-5} \times (-5)^{-5} \times (-5)^{-6}$

(i) $(-8)^{-16}$ (ii) $(-5)^{-17}$ (iii) $(-5)^{-15}$

(iv) $(-3)^{-16}$ (v) $(-5)^{-16}$

24. Simplify the expression $\left(\frac{7}{5}\right)^5 \times \left(\frac{7}{5}\right)^2$

(i) $\left(\frac{9}{5}\right)^7$ (ii) $\left(\frac{7}{5}\right)^6$ (iii) 1

(iv) $\left(\frac{7}{5}\right)^7$ (v) $\left(\frac{7}{5}\right)^8$

25. Simplify the expression $2^2 \times 6^2 \times 2^2$

(i) 24 (ii) 24^2 (iii) 27^2

(iv) 24^3 (v) 22^2

26. Simplify the expression $5^{-2} \times 7^{-2}$

(i) 38^{-2} (ii) 32^{-2} (iii) 35^{-2}

(iv) 35^{-3} (v) 35^{-1}

27. $2x^6 \cdot 7x^7 =$

(i) $14x^{42}$ (ii) $13x^{14}$ (iii) $9x^{42}$

(iv) $9x^{13}$ (v) $14x^{13}$

28. $4b^9 \cdot 6b^3 \cdot 8b^5 =$

- (i) $18b^{17}$ (ii) $192b^{135}$ (iii) $192b^{17}$
(iv) $17b^{192}$ (v) $18b^{135}$
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29. $3h^3 \cdot 6h^2 \cdot 8h^6 \cdot 4h^9 =$

- (i) $13h^{11}$ (ii) $72h^{54}$ (iii) $13h^{54}$
(iv) $576h^{20}$ (v) $11h^{72}$
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30. $-7t^4 \cdot -3t^3 =$

- (i) $21t^7$ (ii) $21t^{12}$ (iii) $7t^{21}$
(iv) $-10t^{12}$ (v) $-10t^7$
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Assignment Key

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