EduSahara™ Learning Center Assignment

Grade : Class VII, CBSE
Chapter : Exponents and Powers
Name : Simplification of Base Power Expressions
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1. Simplify $\frac{2^{2} \times 5^{2}}{(-3)^{-2} \times (-2)^{-2}}$

(i) 60^{2} (ii) 58^{2} (iii) 62^{2}

(iv) 60 (v) 60^{3}

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2. Simplify $\frac{3^{2} \times (-5)^{-2} \times (-3)^{2}}{(-5)^{-2} \times (-5)^{-2} \times 5^{-2}}$

(i) 15^{5} (ii) 18^{4} (iii) 12^{4}

(iv) 15^{4} (v) 15^{3}

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3. Simplify $\frac{(-3)^{2} \times 2^{-2} \times (-4)^{-2} \times (-4)^{2}}{(-2)^{2} \times (-3)^{-2} \times (-5)^{2} \times (-3)^{-2}}$

(i) $\left(\frac{27}{20}\right)^{2}$ (ii) $\left(\frac{5}{4}\right)^{2}$ (iii) $\frac{27}{20}$

(iv) $\left(\frac{29}{20}\right)^{2}$ (v) $\left(\frac{27}{20}\right)^{3}$

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4. Simplify $\frac{(-2)^{-2} \times (-5)^{2}}{(-2)^{2} \times 4^{-3}}$

(i) 10^{3} (ii) 10^{2} (iii) 7^{2}

(iv) 10 (v) 13^{2}

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5. Simplify $\frac{5^{-2} \times 5^{-3} \times (-3)^{3}}{3^{-2} \times 5^{-2} \times (-2)^{2}}$

(i) $\frac{-1 \times 3^{5}}{2^{2} \times 7^{3}}$ (ii) $\frac{-2 \times 3^{5}}{2^{2} \times 5^{3}}$ (iii) $\frac{-1 \times 3^{5}}{2^{2} \times 5^{3}}$

(iv) $\frac{(-1)^{2} \times 3^{5}}{2^{2} \times 5^{3}}$ (v) $\frac{-1 \times 3^{5}}{0 \times 5^{3}}$

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6. Simplify $\frac{(-3)^{3} \times 2^{2} \times (-3)^{2}}{(-3)^{2} \times (-4)^{3} \times (-3)^{2} \times (-2)^{3}}$

(i) $\frac{-1 \times 2}{2^{7}}$ (ii) $\frac{-1 \times 3}{2^{7}}$ (iii) $\frac{-1 \times 3}{2^{4}}$

(iv) $\frac{-1 \times 3^{2}}{2^{7}}$ (v) $\frac{-1 \times 3}{4^{7}}$

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7. Simplify $\frac{(-5)^{-3} \times (-4)^{-2} \times (-2)^{-2} \times 2^{-2}}{}$

$$(-3)^{-3} \times (-5)^{-3} \times 4^{-3}$$

(i) $\frac{-1 \times 3^3}{2^2}$ (ii) $\frac{-2 \times 3^3}{2^2}$ (iii) $\frac{(-1)^2 \times 3^3}{2^2}$

(iv) $\frac{-1 \times 3^3}{(-1)^2}$ (v) $\frac{-1 \times 3^3}{5^2}$

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8. $\frac{w^{15} x^{17}}{w^2 x^9} =$

(i) $w^{13} x^{26}$ (ii) $w^{13} x^8$ (iii) $w^{17} x^8$ (iv) $w^{17} x^{26}$ (v) $w^{32} x^{11}$

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9. $\left(\frac{s^7}{s^7}\right)^5 =$

(i) s^0 (ii) s^{14} (iii) $5 s^0$

(iv) s^7 (v) s^7

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10. $\left(a^{18a}\right)^8 =$

(i) a^{144a} (ii) a^{18a} (iii) $a^{(18a+8)}$ (iv) $8 a^{144a}$

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11. $(w-x)^{(-7)} . (w-x)^{(-4)} =$

(i) $(w-x)^{28}$ (ii) $(w-x)^{(-11)}$ (iii) $(w-x)^{(-4)}$ (iv) $(w-x)^{(-3)}$ (v) $(w-x)^{(-7)}$

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12. $\left(3^3 \times 8^7\right)^8 =$

(i) $3^{24} \times 8^7$ (ii) $3^3 \times 8^7$ (iii) $3^3 \times 8^{56}$

(iv) $3^{24} \times 8^{56}$ (v) $3^{56} \times 8^{24}$

13. $\dfrac{\left(4^4\right)^{-4} \times \left(7^5\right)^{3} \times \left(10^5\right)^{-2}}{\left(4^{(-6)}\right)^{-5} \times \left(7^{(-3)}\right)^{-5} \times \left(10^2\right)^{4}} =$

(i) $4^{(-46)} \times 1 \times 10^{(-18)}$ (ii) $4^{(-45)} \times 1 \times 10^{(-18)}$

(iii) $4^{(-46)} \times 1 \times 10^{(-17)}$ (iv) $4^{(-46)} \times 1 \times 10^{(-18)}$

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14. $\left[\left(6^3\right)^2 \times \left(6^3\right)^6\right] \div 6^{24}$

(i) 6 (ii) 0 (iii) 4 (iv) 2 (v) 1

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15. $\left[\left(\frac{9}{2}\right)^{-5} \times \left(\frac{6}{3}\right)^{-5}\right] \div \left[\left(\frac{2}{9}\right)^{5} \times \left(\frac{3}{6}\right)^{5}\right] =$

(i) (-1) (ii) $\frac{9}{2}$ (iii) 0 (iv) $\frac{6}{3}$ (v) 1

Assignment Key

1) (i)
2) (iv)
3) (i)
4) (ii)
5) (iii)
6) (ii)
7) (i)
8) (ii)
9) (i)
10) (i)
11) (ii)
12) (iv)
13) (i)
14) (v)
15) (v)