

**EduSahara™ Learning Center Assignment****Grade : Class VIII, ICSE****Chapter : Exponents****Name : Exponents Concepts****Licensed To : Teachers and Students for non-commercial use**

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1. The base in the term  $7^{14}$  is

(i) 7 (ii) 4 (iii) -7 (iv) 14 (v) -14

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2. The exponent in the term  $9^5$  is

(i) 2 (ii) -5 (iii) 9 (iv) 5 (v) -9

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3. The power in the term  $5^2$  is

(i) -5 (ii) 2 (iii) -1 (iv) 5 (v) -2

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4. The base in the term  $\left(\frac{4}{3}\right)^6$  is

(i)  $\frac{4}{3}$  (ii) -6 (iii)  $\left(-\frac{4}{3}\right)$  (iv)  $\frac{2}{3}$  (v) 6

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5. The exponent in the term  $\left(\frac{5}{4}\right)^2$  is

(i) 2 (ii) 0 (iii)  $\left(-\frac{5}{4}\right)$  (iv)  $\frac{5}{4}$  (v) -2

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6. The power in the term  $\left(\frac{9}{4}\right)^8$  is

(i)  $\left(-\frac{9}{4}\right)$  (ii) 8 (iii) -8 (iv) 5 (v)  $\frac{9}{4}$

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7. The base in the term  $6^4$  is

- (i) -6 (ii) -4 (iii) 6 (iv)  $\frac{4}{1}$  (v) 3
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8. The exponent in the term  $8^{\left(\frac{5}{4}\right)}$  is

- (i)  $\frac{5}{4}$  (ii) 8 (iii)  $\frac{3}{4}$  (iv) -8 (v)  $\left(-\frac{5}{4}\right)$
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9. The power in the term  $9^6$  is

- (i) 4 (ii) -9 (iii)  $\frac{6}{1}$  (iv) 9 (v) -6
- 

10. The base in the term  $\left(\frac{7}{2}\right)^{(5/3)}$  is

- (i)  $\left(-\frac{5}{3}\right)$  (ii)  $\frac{5}{2}$  (iii)  $\left(-\frac{7}{2}\right)$  (iv)  $\frac{7}{2}$  (v)  $\frac{5}{3}$
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11. The exponent in the term  $9^{\left(\frac{7}{5}\right)}$  is

- (i) -9 (ii)  $\left(-\frac{7}{5}\right)$  (iii)  $\frac{9}{1}$  (iv)  $\frac{7}{5}$  (v) 1
- 

12. The power in the term  $\left(\frac{4}{3}\right)^{(7/5)}$  is

- (i)  $\left(-\frac{7}{5}\right)$  (ii)  $\left(-\frac{4}{3}\right)$  (iii) 1 (iv)  $\frac{7}{5}$  (v)  $\frac{4}{3}$
- 

13.  $(7 \times -3)^8 =$

- (i)  $7^8 \times (-3)^9$  (ii)  $7^8 \times (-3)^{11}$   
 (iii)  $7^8 \times (-5)^8$  (iv)  $7^8 \times (-3)^7$   
 (v)  $7^8 \times (-3)^8$
-

14.  $(-5 \times 6 \times -3)^7 =$

(i)  $(-5)^7 \times 4^7 \times (-6)^7$  (ii)  $(-5)^7 \times 8^7 \times (-1)^7$

(iii)  $(-5)^7 \times 6^7 \times (-3)^7$  (iv)  $(-5)^7 \times 6^8 \times (-3)^8$

(v)  $(-5)^7 \times 6^6 \times (-3)^6$

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15.  $(-9 \times -2)^{7/6} =$

(i)  $(-9)^{\left(\frac{7}{6}\right)} \times (-2)^{\left(\frac{7}{8}\right)}$  (ii)  $(-9)^{\left(\frac{7}{6}\right)} \times (-2)^{\left(\frac{7}{4}\right)}$

(iii)  $(-9)^{\left(\frac{7}{6}\right)} \times (-2)^{\left(\frac{7}{6}\right)}$  (iv)  $(-9)^{\left(\frac{7}{6}\right)} \times 1$

(v)  $(-9)^{\left(\frac{7}{6}\right)} \times (-4)^{\left(\frac{7}{6}\right)}$

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16.  $(-2 \times -5 \times -7)^3 =$

(i)  $(-2)^3 \times (-5)^2 \times (-7)^2$  (ii)  $(-2)^3 \times (-2)^3 \times (-4)^3$

(iii)  $(-2)^3 \times (-5)^4 \times (-7)^4$  (iv)  $(-2)^3 \times (-7)^3 \times (-10)^3$

(v)  $(-2)^3 \times (-5)^3 \times (-7)^3$

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17.  $\left(\frac{-6}{1} \times \left(\frac{-3}{4}\right)\right)^{-3} =$

(i)  $(-6)^{-3} \times \left(\frac{-5}{4}\right)^{-3}$  (ii)  $(-6)^{-3} \times \left(\frac{-3}{4}\right)^{-4}$

(iii)  $(-6)^{-3} \times \left(\frac{-3}{4}\right)^{-2}$  (iv)  $(-6)^{-3} \times \left(\frac{-3}{4}\right)^{-3}$

$$(v) (-6)^{-3} \times \left(\frac{-1}{4}\right)^{-3}$$


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$$18. \left(\frac{7}{5} \times \frac{-6}{1} \times \frac{-7}{1}\right)^8 =$$

$$(i) \left(\frac{7}{5}\right)^8 \times (-3)^8 \times (-5)^8 \quad (ii) \left(\frac{7}{5}\right)^8 \times (-6)^9 \times (-7)^9$$

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

$$(v) \left(\frac{7}{5}\right)^8 \times (-6)^8 \times (-7)^8$$


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$$19. \left(\frac{7}{4}\right)^8 =$$

$$(i) \frac{7^8}{7^8} \quad (ii) \frac{7^8}{4^8} \quad (iii) \frac{7^9}{4^8} \quad (iv) \frac{7^7}{4^8} \quad (v) \frac{7^8}{1}$$


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$$20. \left(\frac{6}{5}\right)^{-6} =$$

$$(i) \frac{6^{-7}}{5^{-6}} \quad (ii) \frac{6^{-6}}{5^{-6}} \quad (iii) \frac{6^{-6}}{8^{-6}} \quad (iv) \frac{6^{-5}}{5^{-6}} \quad (v) \frac{6^{-6}}{3^{-6}}$$


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$$21. \left(\frac{-3}{7}\right)^{(7/3)} =$$

$$\begin{array}{ccccc}
 \left(\frac{7}{3}\right) & & \left(\frac{7}{3}\right) & \left(\frac{7}{5}\right) & \left(\frac{7}{3}\right) \\
 (-3) & & (-3)^7 & (-3) & (-3) \\
 \hline
 \text{(i)} \frac{\left(\frac{7}{3}\right)}{10} & \text{(ii)} \frac{\left(\frac{7}{3}\right)}{7} & \text{(iii)} \frac{\left(\frac{7}{3}\right)}{4} & \text{(iv)} \frac{\left(\frac{7}{3}\right)}{7} & \text{(v)} \frac{\left(\frac{7}{3}\right)}{7}
 \end{array}$$


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22.  $5^{\left(\frac{-9}{5}\right)} =$

$$\begin{array}{ccccc}
 \left(\frac{-9}{5}\right) & & \left(\frac{-9}{5}\right) & \left(\frac{-9}{7}\right) & \left(\frac{-9}{5}\right) \\
 5 & & 5 & 5 & 5 \\
 \hline
 \text{(i)} \frac{\left(\frac{-9}{5}\right)}{(-1)} & \text{(ii)} \frac{5^{-3}}{1} & \text{(iii)} \frac{\left(\frac{-9}{5}\right)}{1} & \text{(iv)} \frac{\left(\frac{-9}{7}\right)}{1} & \text{(v)} \frac{\left(\frac{-9}{5}\right)}{4}
 \end{array}$$


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23.  $(-3)^3 =$

$$\begin{array}{ccccc}
 (-1)^{-3} & \left(\frac{-1}{3}\right)^{-4} & \left(\frac{-1}{3}\right)^{-3} & \left(\frac{-1}{3}\right)^{-2} & \left(\frac{1}{3}\right)^{-3} \\
 \text{(i)} & \text{(ii)} & \text{(iii)} & \text{(iv)} & \text{(v)}
 \end{array}$$


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24.  $(-3)^{-9} =$

$$\begin{array}{ccccc}
 \left(\frac{-1}{3}\right)^8 & \left(\frac{1}{3}\right)^9 & (-1)^9 & \left(\frac{-1}{3}\right)^9 & \left(\frac{-1}{3}\right)^{10} \\
 \text{(i)} & \text{(ii)} & \text{(iii)} & \text{(iv)} & \text{(v)}
 \end{array}$$


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25.  $\left(\frac{5}{4}\right)^3 =$

$$(i) \left(\frac{4}{5}\right)^{-3} \quad (ii) \left(\frac{4}{5}\right)^{-2} \quad (iii) \left(\frac{6}{5}\right)^{-3} \quad (iv) \left(\frac{2}{5}\right)^{-3} \quad (v) \left(\frac{4}{5}\right)^{-4}$$


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$$26. \left(\frac{-4}{5}\right)^{(-7/5)} =$$

$$(i) \left(\frac{-5}{4}\right)^{(7/5)} \quad (ii) \left(\frac{-5}{4}\right)^{(9/7)} \quad (iii) \left(\frac{-5}{4}\right)^{(5/3)} \quad (iv) \left(\frac{-7}{4}\right)^{(7/5)} \quad (v) \left(\frac{-3}{4}\right)^{(7/5)}$$


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$$27. \frac{(-2)^5}{(-2)^7} =$$

$$(i) (-4)^{-2} \quad (ii) (-2)^{-1} \quad (iii) 0 \quad (iv) (-2)^{-2} \quad (v) (-2)^{-3}$$


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$$28. \frac{\left(\frac{-3}{4}\right)^2}{\left(\frac{-3}{4}\right)^9} =$$

$$(i) \left(\frac{-3}{4}\right)^{-6} \quad (ii) \left(\frac{-1}{4}\right)^{-7} \quad (iii) \left(\frac{-3}{4}\right)^{-7} \quad (iv) \left(\frac{-3}{4}\right)^{-8} \quad (v) \left(\frac{-5}{4}\right)^{-7}$$


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$$29. \frac{\left(\frac{-3}{5}\right)^{(-5)}}{\left(\frac{-5}{2}\right)^{(-5)}} =$$

- (i)  $(-5)^{\left(\frac{19}{10}\right)}$  (ii)  $(-5)^{\left(\frac{7}{4}\right)}$  (iii)  $(-5)^{\left(\frac{17}{8}\right)}$  (iv)  $(-2)^{\left(\frac{19}{10}\right)}$  (v)  $(-7)^{\left(\frac{19}{10}\right)}$
- 

$$\left(\frac{7}{6}\right)^{-5}$$

30.  $\frac{\left(\frac{7}{6}\right)^{-5}}{(-3/5)^{\left(\frac{7}{6}\right)}} =$

- (i)  $(-30/7)^{\left(\frac{7}{6}\right)}$  (ii)  $(-22/5)^{\left(\frac{7}{6}\right)}$  (iii)  $(-14/3)^{\left(\frac{7}{6}\right)}$  (iv)  $(-22/5)^{\left(\frac{5}{6}\right)}$  (v)  $(-22/5)^{\left(\frac{3}{2}\right)}$
- 

31.  $[(-9)^{-3}]^5 =$

- (i)  $(-7)^{-15}$  (ii)  $(-9)^{-15}$  (iii)  $(-11)^{-15}$   
(iv)  $(-9)^{-16}$  (v)  $(-9)^{-14}$
- 

32.  $[(-9)^{-2}]^{5/4} =$

- (i)  $(-7)^{\left(\frac{-5}{2}\right)}$  (ii)  $(-11)^{\left(\frac{-5}{2}\right)}$  (iii)  $(-9)^{\left(\frac{-9}{4}\right)}$   
(iv)  $(-9)^{\left(\frac{-5}{2}\right)}$  (v)  $(-9)^{-3}$
- 

33.  $\left[ \frac{\left(\frac{-3}{4}\right)}{5} \right]^{-3} =$

$$(i) \quad 5^{\left(\frac{5}{2}\right)} \quad (ii) \quad 5^{\left(\frac{13}{6}\right)} \quad (iii) \quad 5^{\left(\frac{9}{4}\right)}$$

$$(iv) \quad 3^{\left(\frac{9}{4}\right)} \quad (v) \quad 7^{\left(\frac{9}{4}\right)}$$

$$34. \quad \left[ (-9)^{\left(\frac{5}{2}\right)} \right]^5 =$$

$$(i) \quad (-12)^{\left(\frac{25}{2}\right)} \quad (ii) \quad (-9)^{\left(\frac{25}{2}\right)} \quad (iii) \quad (-9)^{13}$$

$$(iv) \quad (-7)^{\left(\frac{25}{2}\right)} \quad (v) \quad (-9)^{\left(\frac{49}{4}\right)}$$

$$35. \quad \left[ \left( \frac{-8}{7} \right)^2 \right]^{-5} =$$

$$(i) \quad \left( \frac{-10}{7} \right)^{-10} \quad (ii) \quad \left( \frac{-8}{7} \right)^{-11} \quad (iii) \quad \left( \frac{-6}{7} \right)^{-10}$$

$$(iv) \quad \left( \frac{-8}{7} \right)^{-10} \quad (v) \quad \left( \frac{-8}{7} \right)^{-9}$$

$$36. \quad \left[ \left( \frac{9}{5} \right)^4 \right]^2 =$$

(i)  $\left(\frac{9}{5}\right)^9$  (ii)  $\left(\frac{9}{5}\right)^7$  (iii)  $\left(\frac{11}{5}\right)^8$

(iv)  $\left(\frac{9}{5}\right)^8$  (v)  $\left(\frac{7}{5}\right)^8$

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37.  $\left[ \left(\frac{8}{3}\right)^{(-5/4)} \right]^5 =$

(i)  $\left(\frac{8}{3}\right)^{(-37/6)}$  (ii)  $\left(\frac{8}{3}\right)^{(-25/4)}$  (iii)  $\left(\frac{8}{3}\right)^{(-13/2)}$

(iv)  $2^{\left(\frac{-25}{4}\right)}$  (v)  $\left(\frac{10}{3}\right)^{(-25/4)}$

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38.  $\left[ \left(\frac{6}{5}\right)^4 \right]^{5/4} =$

(i)  $\left(\frac{4}{5}\right)^5$  (ii)  $\left(\frac{6}{5}\right)^6$  (iii)  $\left(\frac{6}{5}\right)^5$

(iv)  $\left(\frac{6}{5}\right)^4$  (v)  $\left(\frac{8}{5}\right)^5$

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39. The multiplicative inverse of  $6^{-7}$  is

(i)  $(-6)^{-7}$  (ii)  $6^7$  (iii) 0 (iv) 1 (v)  $\left(\frac{1}{6}\right)^7$

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40. The multiplicative inverse of  $\left(\frac{1}{4}\right)^9$  is

- (i)  $4^{-9}$  (ii)  $\left(\frac{-1}{4}\right)^9$  (iii)  $\left(\frac{1}{4}\right)^{-9}$  (iv) 1 (v) 0

41. Which of the following statements are true?

a)  $a \cdot x^m = a^m \cdot x^m$

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

c)  $a^m \cdot a^n = a^{mn}$

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

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

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

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

42.  $-1^{10} =$

- (i) 0 (ii) undefined (iii)  $\infty$  (iv) 1 (v) -1

43.  $-1^5 =$

- (i) undefined (ii) 0 (iii)  $\infty$  (iv) -1 (v) 1

44.  $8^0 =$

- (i) undefined (ii)  $\infty$  (iii) 1 (iv) 0 (v) -1

45.  $0^0 =$

(i)  $\infty$  (ii) 1 (iii) -1 (iv) 0 (v) undefined

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46.  $-3^0 =$

(i) 1 (ii)  $\infty$  (iii) undefined (iv) -1 (v) 0

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47.  $0^6 =$

(i)  $\infty$  (ii) undefined (iii) -1 (iv) 1 (v) 0

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48.  $\sqrt{\frac{9}{49}} =$

(i)  $\frac{3}{5}$  (ii)  $\frac{1}{7}$  (iii)  $\frac{1}{3}$  (iv)  $\frac{5}{7}$  (v)  $\frac{3}{7}$

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49. Find the reciprocal of  $3^4$

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

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50. Find the reciprocal of  $\left(\frac{-3}{7}\right)^2$

(i)  $\left(\frac{-7}{3}\right)^2$  (ii)  $(-3)^2$  (iii)  $\left(\frac{-5}{3}\right)^2$  (iv)  $\left(\frac{-7}{3}\right)$  (v)  $\left(\frac{-7}{3}\right)^3$

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## Assignment Key

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

40) (iii)

41) (v)

42) (iv)

43) (iv)

44) (iii)

45) (v)

46) (i)

47) (v)

48) (v)

49) (v)

50) (i)