

EduSahara™ Learning Center Assignment**Grade : Class IX, ICSE****Chapter : Indices****Name : Solving Equations with Indices**

1. If $4^a = 64$, find a

(i) 5 (ii) 3 (iii) 2 (iv) 4 (v) 0

2. If $4^v = 16$, find 7^v

(i) 52 (ii) 50 (iii) 49 (iv) 48 (v) 46

3. If $3^{(11i+1)} = 9^{(5i+5)}$, find i

(i) 6 (ii) 9 (iii) 10 (iv) 11 (v) 8

4. If $15625^{(s+1)} = 625^{2s}$, find s

(i) 2 (ii) 3 (iii) 6 (iv) 4 (v) 0

5. If $16^{(r+22)} = 1024^{32} = 4^s$, find s

(i) 159 (ii) 161 (iii) 162 (iv) 158 (v) 160

6. If $4^r = 64$, find $4^{(2r+3)}$

(i) 262143 (ii) 262147 (iii) 262145 (iv) 262144 (v) 262141

7. $(x)^{(n-o)} \cdot (x)^{(o-p)} \cdot (x)^{(p-n)} =$

(i) (-1) (ii) 0 (iii) 2 (iv) 1 (v) 3

8. If $(5^{72})^{21} = (5^9)^u$, find u

(i) 166 (ii) 171 (iii) 167 (iv) 168 (v) 169

9. If $125 \times 5^i = 5^6$, find i

(i) 3 (ii) 4 (iii) 6 (iv) 2 (v) 1

10. If $6^{(4p+4)} \div 216 = 6^9$, find p

(i) 4 (ii) 1 (iii) (-1) (iv) 3 (v) 2

11. If $54000 = m^3 \times n^4 \times o^3$, find m, n, o

(i) (7,2,3) (ii) (5,2,3) (iii) (5,4,3) (iv) (5,2,5) (v) (7,2,1)

12. If $900 = 2^k \times 3^l \times 5^m$, find k, l, m

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

13. If $f^w = g$, $g^x = h$ and $h^y = f$, then $wxy =$

(i) $(f+g+h)$ (ii) -1 (iii) fgh (iv) 1 (v) 0

14. If $c^w = d^x = e^y = f^z$ and $cd = ef$, then

(i) $xy = wz$

(ii) $\frac{1}{x} + \frac{1}{w} = \frac{1}{y} + \frac{1}{z}$

(iii) $\frac{1}{x} + \frac{1}{y} = \frac{1}{w} + \frac{1}{z}$

(iv) $xw = yz$

(v) $\frac{1}{x} + \frac{1}{z} = \frac{1}{y} + \frac{1}{w}$

15. If $n^{(s-1)} = op$, $o^{(t-1)} = pn$, $p^{(u-1)} = no$ then

a) $stu = 1$

b) $st + tu + us = stu$

c) $st + tu + us = 1$

d) $st + tu + us = 0$

e) $(s+t+u) = 1$

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

Assignment Key

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