



# MATHS

# **BOOKS - JNAN PUBLICATION**

# **CONCEPT OF INDEX**



1. Let's expand the following in index of 10\_\_\_\_

8275

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2. Let's expand the following in index of 10\_\_\_\_

90925

<b>3.</b> Let's expand the following in index of 10
12578           Watch Video Solution
<b>4.</b> Let's expand the following in index of 10
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5. Fill in the blanks:
100 = 10         Watch Video Solution

6. Fill in the blanks:

$$27 = 3^{?}$$



7. Fill in the blanks:

 $125 = 5^{?}$ 

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8. Fill in the blanks:

$$32 = 2^{?}$$



9. Fill in the blanks:

 $343 = 7^{?}$ 



10. Fill in the blanks:

 $121 = 11^{?}$ 

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**11.** Fill in the blanks:

$$2^3=~?~ imes~?~ imes~?$$

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12. Fill in the blanks:

$$3^4=? imes? imes? imes?$$

13. Fill in the blanks:

$$729 = 9^{?}$$

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14. Fill in the blanks:

 $2 \times 2 \times 2 \times 2 = 2^?$ 

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15. Fill in the blanks:

$$(\,-2) imes(\,-2) imes(\,-2)=(\,-2)^{\,?}$$

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16. Fill in the blanks:

$$(\,-2) imes(\,-2) imes(\,-2) imes(\,-2)=(\,-2)^{\,?}$$



**17.** Let's express the following numbers in the index form of their prime factor.

24

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18. Let's express the following numbers in the index form of their prime

factor.

56

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19. Let's express the following numbers in the index form of their prime

factor.

63

**20.** Let's express the following numbers in the index form of their prime factor.

72

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21. Let's express the following numbers in the index form of their prime

factor.

200

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**22.** Let's put > or < signs in the respective blanks squares.

 $5^3$ ? $3^5$ 

**23.** Let's put > or < signs in the respective blanks squares.

 $6^2\,?\,2^6$ 

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<b>24.</b> Let's put > or < signs in the respective blanks squares.
$2^4?4^2$
Watch Video Solution
Watch Video Solution 25. Let's put > or < signs in the respective blanks squares.
<b>25.</b> Let's put > or < signs in the respective blanks squares. $7^2 ? 2^7$
<b>25.</b> Let's put > or < signs in the respective blanks squares. $7^2 ? 2^7$

**26.** Let's put > or < signs in the respective blanks squares.

 $3^4\,?\,4^3$ 



**27.** Let's put > or < signs in the respective blanks squares.

 $3^5\,?\,5^3$ 



29. Solve:-

$$(-13)^{18} \times (-13)^{12} = ?$$

30. Solve:-

 $10^5 imes 10^2 = \ ?$ 



31. Solve:-

 $2^{15}\div 2^{13}$ 

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32. Solve:-

 $9^{15} \div 9^{14} = ?$ 

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33. Solve:-

 $11^6 \times 11^4 = ?$ 



$$9^2 \div 9^2 = ?$$

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35. Let's fill in the blank squares given below:-

$$7^3 \div ? = 1$$

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36. Let's fill in the blank squares given below:-

 $11^0 = ?$ 

$$1 = 13^{?}$$



38. Let's fill in the blank squares given below:-

$$1 = (-13)^{?}$$

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39. Let's fill in the blank squares given below:-

$$6^5 \div 2^5 = ?$$



40. Let's fill in the blank squares given below:-

$$? = 7^2 \div 2^2$$

$$10^2 = ? \times ?$$

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42. Let's fill in the blank squares given below:-

$${(\,-\,4)}^2 imes 6^2 = \,?^2$$

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43. Let's fill in the blank squares given below:-

 $5^\circ\,=\,?$ 

$$\left(\frac{2}{3}\right)^3 = (?) \div (?)$$

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**45.** Express  $8 \times 8 \times 8$  as index of 2.

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46.  $25 \times 25 \times 25 \times 25$  to be expressed as index of 5.

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47. Let's express 36 imes 36 imes 36 as index of 6.

#### **48.** Let's expressed $81 \times 81$ and index of 3.



**50.** Find the values of following.

 $\frac{10^3\times10^4}{2^5\times5^4}$ 



**51.** Find the values of following.

$$\frac{5^9\times 5^6}{5^7}$$

#### **52.** Find the values of following.

$$\frac{6^4\times 3^8}{3^{12}}$$





 $\frac{25^2 \times 25^5}{5^{10}}$ 



54. Find the values of following.

$$\frac{2^3\times 3^9}{3^4\times 6^3}$$

55. Find the values of following.

$$\left(rac{a^7}{a^5}
ight) imes a^2(a
eq 0)$$



**56.** Let's express the distances given below in index of 10 and try to get a

better idea of the distances.

Distance of Mercury from Sun is 57900000 km. Distances of Mars and

Jupiter from Sun are 227900000 km. and 778300000 km. respectively.

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57. Let's fill in the gaps.

Distance between earth and moon is 384, 000,000 m.

$$= 384 imes 10^{?} m.$$





**60.** Let's express the following number in index from as power of 10 (taking 1,2 and 3 places of decimal).

1592170



61. Let's from the numbers from their expanded from given below:-

$$3 imes 10^3 + 2 imes 10^2 + 7 imes 10 + 2$$



63. Let's from the numbers from their expanded from given below:-

 $8 imes 10^4 + 2 imes 10^3 + 3 imes 10^2 + 6 \, ext{ and } \, 9 imes 10^4 + 5 imes 10^3 + 6 imes 10^2 + 7 imes 10^4 + 5 \, imes 10^4 +$ 

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64. Let's simplify and express each of them in index form:-

 $\frac{2^3\times3^5\times16}{3\times32}$ 

65. Let's simplify and express each of them in index form:- V

$$\left[\left(6^2\right)^3\times 6^4\right]\div 6^7$$

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66. Let's simplify and express each of them in index form:- V

 $rac{3 imes 7^2 imes 11^0}{21 imes 7}$ 

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67. Let's simplify and express each of them in index form:- V

$$\left(3^0+2^0
ight) imes 5^0$$

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68. Let's simplify and express each of them in index form:- V

- $4^5 imes a^8 b^3$
- $\overline{4^4 imes a^5 b^2}$

69. Let's simplify and express each of them in index form:- V

$$rac{32^8 imes x^7}{4^3 imes x^3}(x
eq 0)$$