



MATHS

BOOKS - NAVNEET PUBLICATION

INDICES AND CUBE ROOT

Question Bank

1. Express the following numbers in index form:

Fifth root of 13



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2. Express the following numbers in index form:

Sixth root of 9



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3. Express the following numbers in index form:

Square root of 256





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4. Express the following numbers in index form:

Cube root of 17



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5. Express the following numbers in index form:

Eighth root of 100



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6. Express the following numbers in index form:

Seventh root of 30.



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7. Write in the form 'nth root of a' in each of the following numbers:

$$(81)^{\frac{1}{4}}$$



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8. Write in the form 'nth root of a' in each of the following numbers:

$$49^{\frac{1}{2}}$$



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9. Write in the form 'nth root of a' in each of the following numbers:

$$(15)^{\frac{1}{5}}$$



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10. Write in the form 'nth root of a' in each of the following numbers:

$$(512)^{\frac{1}{9}}$$



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11. Write in the form 'nth root of a' in each of the following numbers:

$$100^{\frac{1}{19}}$$



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12. Write in the form 'nth root of a' in each of the following numbers:

$$(6)^{\frac{1}{7}}$$



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13. Write the following numbers in the form of rational indices:

Square root of 5th power of 121.



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14. Write the following numbers in the form of rational indices:

Cube of 4th root of 324.



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15. Write the following numbers in the form of rational indices:

5th root of square of 264.



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16. Write the following numbers in the form of rational indices:

Cube of cube root of 3.



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17. The cube of

$$(-7) = (-7) \times (-7) \times (-7) = -343.$$



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18. Write the following numbers in the the form of rational indices: The cube of 0.03=
 $(0.03) \times (0.03) \times (0.03) = 0.000027.$



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19. Find the cube roots of the following numbers:

8000



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20. Find the cube roots of the following numbers:

729



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21. Find the cube roots of the following numbers:

343



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22. Find the cube roots of the following numbers:

– 512



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23. Find the cube roots of the following numbers:

– 2744



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24. Find the cube roots of the following numbers:

32768



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25. Simplify:

$$\sqrt[3]{\frac{27}{125}}$$



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26. Simplify:

$$\sqrt[3]{\frac{16}{54}}$$



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27. Simplify:

If $\sqrt[3]{729} = 9$, then $\sqrt[3]{0.000729} = ?$



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28. Choose the correct alternative answer for each of the following question :

What is the value of x , if $4^x = 64$?

A. 6

B. 3

C. 2

D. 1

Answer:



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29. Choose the correct alternative answer for each of the following question :

What is the simplification of

$$(-1)^4 \times (-1)^{-4}?$$

A. 0

B. (-1)

C. 1

D. $(-1)^{-16}$

Answer:



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30. Choose the correct alternative answer for each of the following question :

The simplified form of $(-1)^3 \times (-1)^6$ is

A. 0

B. (-1)

C. 1

D. $(-1)^{18}$

Answer:



31. Choose the correct alternative answer for each of the following question :

$$\left[\left(\frac{3}{7} \right)^{-3} \right]^4 = ?$$

A. $\left(\frac{3}{7} \right)^{-7}$

B. $\left(\frac{3}{7} \right)^1$

C. $\left(\frac{7}{3} \right)^{-12}$

D. $\left(\frac{7}{3} \right)^{12}$

Answer:



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32. Choose the correct alternative answer for each of the following question :

$$\sqrt[3]{1728} = 12. \therefore \sqrt[3]{0.000001728} = ?$$

A. 0.12

B. 0.012

C. 0.0012

D. 0.00012

Answer:



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33. Choose the correct alternative answer for each of the following question :

$$\sqrt[3]{\frac{729}{1728}} = ?$$

A. $\frac{243}{576}$

B. $\frac{81}{192}$

C. $\frac{27}{64}$

D. $\frac{3}{4}$

Answer:



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34. Express the following numbers in index form:

Seventh root of 7



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35. Express the following numbers in index form:

Square root of cube of 4



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36. Express the following numbers in index form:

Sixth root of 11.



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37. Write the following numbers in the form of rational indices.

$$(27)^{\frac{1}{3}}$$



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38. Write the following numbers in the form of rational indices.

$$(49)^{\frac{1}{7}}$$



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39. Write the following numbers in the form of rational indices.

$$(10)^{\frac{1}{10}}$$



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40. Write the following numbers in the form of rational indices.

Square root of seventh power of 64



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41. Write the following numbers in the form of rational indices.

Cube of fourth root of 57.



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42. Write the following numbers in the form of rational indices.

6th root of cube of 102.



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43. Write the following numbers in the form of rational indices.

Ninth power of fifth root of 2.



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44. Find the cube root of the following numbers :

512



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45. Find the cube root of the following numbers :

– 1728



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46. Find the cube root of the following numbers :

42875



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47. Find the cube root of the following numbers :



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48. Express two meanings of the following numbers : [First is solved for you.]

$(27)^{\frac{4}{7}}$: 4th power of 7th root of 27. 7th root of 4th power of 27.



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49. Express two meanings of the following numbers : [First is solved for you.]

$$(216)^{\frac{3}{4}}$$



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50. Express two meanings of the following numbers : [First is solved for you.]

$$(64)^{\frac{2}{3}}$$



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51. Simplify:

$$\sqrt[3]{\frac{4096}{5832}}$$



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52. Simplify:

$$\sqrt[3]{\frac{9261}{13824}}$$



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53. Simplify:

$$\left[\left(\frac{3}{2} \right)^{-2} - \left(\frac{1}{3} \right)^2 \right] \times \left(\frac{5}{3} \right)^{-2}$$



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54. Simplify:

$$\sqrt[3]{13824}$$



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