



## MATHS

### BOOKS - ARIHANT PUBLICATION BIHAR

### INDICES AND SURDS

#### Solved Examples

1. The value of  $(16)^{\frac{5}{2}} + (16)^{\frac{-3}{2}}$  is equal to

A.  $\frac{66738}{5}$

B.  $\frac{66635}{46}$

C.  $\frac{65537}{64}$

D.  $\frac{63537}{64}$

**Answer: C**



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2. If  $3^{2n-1} = \frac{1}{27^{n-3}}$ , then the value of n is

A. 5

B. 3

C. 6

D. 2

**Answer: D**



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3.  $2^x = 5^y = 10^{-z}$ . find  $\left(\frac{1}{x} + \frac{1}{y} + \frac{1}{z}\right)$

A. 0

B. -2

C. 3

D. 5

**Answer: A**



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## Exam Booster For Cracking Exam

1. The index form of  $\sqrt{\left(\frac{4}{5}\right)^3}$  is

A.  $\left(\frac{4}{5}\right)^{3/2}$

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

C.  $\left(\frac{4}{5}\right)^{1/2}$

D.  $\left(\frac{4}{5}\right)^{1/27}$

**Answer: A**



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2. The radical form of  $\left(\frac{13}{25}\right)^{3/4}$  is

A.  $\sqrt[3]{\left(\frac{13}{25}\right)^4}$

B.  $\sqrt[4]{\left(\frac{13}{25}\right)^4}$

C.  $\sqrt[4]{\left(\frac{25}{13}\right)^4}$

D.  $\sqrt[3]{\left(\frac{25}{13}\right)^4}$

**Answer: B**



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3. The value of  $\frac{5}{121^{-\frac{1}{2}}}$  is

A. -55

B.  $\frac{1}{55}$

C.  $-\frac{1}{55}$

D. 55

**Answer: D**



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4. The value of  $(512)^{-\frac{3}{9}}$  is

A.  $1/4$

B. 8

C.  $\frac{1}{8}$

D.  $-\frac{1}{3}$

**Answer: C**



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5. The value of  $3 \times 9^{-3/2} \times 9^{1/2}$  is

A.  $\frac{1}{3}$

B. 3

C. 27

D.  $-\frac{1}{3}$

**Answer: A**



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6. The value of  $\left(216^{\frac{2}{3}}\right)^{\frac{1}{2}}$  is

A. 3



B. 9

C. 12

D. 6

**Answer: D**



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7. The value of  $27^{-1/3} \times \left[ 27^{2/3} + 27^{1/3} \right]$  is

A. 4

B. 3

C. 2

D. 1

**Answer: D**



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**8.** The value of  $(6.25)^{-1/2}$  is

A. 0.25

B. 25

C.  $\frac{1}{2.5}$

D. 2.5

**Answer: C**



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9. The value of  $\frac{\sqrt{63} \times \sqrt{7}}{\sqrt[3]{27}}$  is

A. 7

B. 9

C. 21

D. 18

**Answer: A**



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10. If  $\sqrt{3} = 1.732$ , then the value of  $\frac{\sqrt{3} + 1}{\sqrt{3} - 1}$  is

A. 3732

B.  $\frac{1}{3732}$

C. 0.732

D. 2.732

**Answer: A**





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11. If  $3^x = \frac{1}{9}$ , then the value of x is

A. 2

B. -2

C.  $\frac{1}{2}$

D. 1

**Answer: B**



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12. The value of  $(0.03125)^{-\frac{2}{5}}$  is 4 b. 12 c. 9 d.

31. 25

A. 1

B. 2

C. 3

D. 4

**Answer: D**



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13. The value of  $\sqrt{18} + \sqrt{50} - \sqrt{32}$  is

A.  $4\sqrt{2}$

B.  $3\sqrt{2}$

C.  $2\sqrt{2}$

D.  $\sqrt{2}$

**Answer: A**



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**14.** The value of  $(x^{a-b})^c \times (x^{b-c})^a \times (x^{c-a})^b$  is

A. 0

B. 1

C.  $x^{ab}$

D.  $x^{bc}$

**Answer: B**



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15. The value of

$$\left(\frac{a^x}{a^y}\right)^{x+y} \times \left(\frac{a^y}{a^z}\right)^{y+z} \times \left(\frac{a^z}{a^x}\right)^{z+x} \text{ is}$$

A. 0

B.  $\frac{1}{y}$



C. 1

D.  $\frac{1}{xyz}$

**Answer: C**



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16. IF  $\frac{\sqrt{126} \times \sqrt{63} \times \sqrt{45}}{\sqrt{147} \times \sqrt{243}}$  then the value of x is

A.  $\sqrt{5}$

B.  $\sqrt{10}$

C. 10

D. 5

**Answer: B**



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17. The value of  $(12^2 + 5^2)^{1/2}$  is

A. 11

B. 13

C. 10

D. 5

**Answer: B**



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**18.** If  $9\sqrt{x} = \sqrt{12} + \sqrt{147}$ , then  $x = ?$  S

A. 1

B. 2

C. 3

D. 4

**Answer: C**



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19. The value of  $(7\sqrt{2} + 5)(7\sqrt{2} - 5)$  is

A. 37

B. 171

C. 73

D.  $14, \sqrt{2}$

**Answer: C**



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20. The value of

$$\left(\frac{a^x}{a^y}\right)^{x^2+xy+y^2} \times \left(\frac{a^y}{a^z}\right)^{y^2+yz+z^2} \times \left(\frac{a^z}{a^x}\right)^{z^2+xz+x^2}$$

is

A.  $a^{xy}$

B. 1

C.  $a^x$

D. 0

**Answer: B**



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