MATHS

BOOKS - ARIHANT PUBLICATION

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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 $\sqrt[9]{\left(\frac{4}{5}\right)^2}$ is

A. $\left(\frac{4}{5}\right)^{\frac{2}{9}}$

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

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

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

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. 3.732

B. $\frac{1}{3.732}$

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 $\left(x^{a-b}\right)^{c} \times \left(x^{b-c}\right)^{a} \times \left(x^{c-a}\right)^{b}$ is

A. 0

B. 1

C. x^{ab}

D. x^{bc}

Answer: B

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15. The value of $\left(\frac{a^x}{a^y}\right)^{x+y} \times \left(\frac{a^y}{a^z}\right)^{y+z} \times \left(\frac{a^z}{a^x}\right)^{z+x}$ is

A. 0

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

C. 1

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

Answer: C

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16. If $x = \frac{\sqrt{126} \times \sqrt{63} \times \sqrt{45}}{\sqrt{147} \times \sqrt{243}}$, 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 $\left(12^2 + 5^2\right)^{1/2}$ is

A. 11

B. 13

C. 12

D. 15

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 $\left(7\sqrt{2}+5\right)\left(7\sqrt{2}-5\right)$ 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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