



MATHS

BOOKS - VGS PUBLICATION-BRILLIANT

EXPONENTS AND POWERS

Exercise

1. Simplify the following : $4 \times 4 \times 4 \times 4 \times 4$

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2. Simplify the following : $3^4 \times 4^3$

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3. The distance between Hyderabad and Delhi is 1674.9 km by rail. How would you express this in centimetres ? Also express this in the scientific form.

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4. What is 10^{-10} equal to?

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5. Find the multiplicative inverse of the following : 3^{-5}

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6. Find the multiplicative inverse of the following : 4^{-3}

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7. Find the multiplicative inverse of the following : 7^{-3}

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8. Find the multiplicative inverse of the following : 4^{-3}

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9. Find the multiplicative inverse of the following : 7^{-4}

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10. Find the multiplicative inverse of the following : x^{-n}

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11. Find the multiplicative inverse of the following : $\frac{1}{10^3}$

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12. Expand the following numbers using exponents : 543.67

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13. Expand the following numbers using exponents : 7054.243

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14. Expand the following numbers using exponents : 6540.305

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15. Expand the following numbers using exponents :6523.450

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16. Simplify and express the following as single exponent :

$$2^{-3} \times 2^{-2}$$

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17. Simplify and express the following as single exponent : $7^{-2} \times 7^5$

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18. Simplify and express the following as single exponent : $3^4 \times 3^{-5}$

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19. Simplify and express the following as single exponent :

$$7^5 \times 7^{-4} \times 7^{-6}$$

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20. Simplify and express the following as single exponent :

$$m^5 \times m^{-10}$$

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21. Simplify and express the following as single exponent :

$$(-5)^{-3} \times (-5)^{-4}$$

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22. Find the value of 5^{-2}



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23. Find the value of $\frac{1}{2^{-5}}$



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24. Find the value of $(-5)^2$



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25. Simplify the following : $(-5)^4 \times (-5)^{-6}$



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26. Simplify the following : $\frac{4^7}{4^4}$



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27. Simplify the following : $\left(\frac{3^5}{3^3}\right)^5 \times 3^{-6}$

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28. Express each of the following with positive exponents : 4^{-7}

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29. Express each of the following with positive exponents : $\frac{1}{(5)^{-4}}$

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30. Express each of the following with positive exponents : $\left(\frac{4}{7}\right)^{-3}$

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31. Express each of the following with positive exponents : $\frac{7^{-4}}{7^{-6}}$

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32. Express 27^{-4} as a power with base 3.

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33. Simplify: $\left(\frac{1}{27}\right) \times 2^{-3}$

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34. Simplify: $4^4 \times 16^{-2} \times 4^0$

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35. Can you guess the value of 'x' when $2^x = 1$?

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36. Find the value of 'x' such that : $25 \times 5^x = 5^8$

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37. Find the value of 'x' such that : $\frac{1}{49} \times 7^{2x} = 7^8$

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38. Find the value of 'x' such that : $(3^6)^4 = 3^{12x}$

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39. Find the value of 'x' such that : $(-2)^{x+1} \times (-2)^7 = (-2)^{12}$

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40. Simplify: $\left(\frac{2}{5}\right)^{-3} \times \left(\frac{25}{4}\right)^{-2}$

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41. Simplify : $\left[\left\{ \left(\frac{1}{3}\right)^{-3} - \left(\frac{1}{2}\right)^{-3} \right\} \div \left(\frac{1}{5}\right)^{-2} \right]$

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42. If $x = \left(\frac{3}{2}\right)^2 \times \left(\frac{2}{3}\right)^{-4}$ find the value of x^{-2}

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43. Simplify and give reasons : 4^{-3}



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44. Simplify and give reasons : $(-2)^7$



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45. Simplify and give reasons : $\left(\frac{3}{4}\right)^{-3}$



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46. Simplify and give reasons : $(-3)^{-4}$



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47. Simplify the following : $\left(\frac{1}{2}\right)^4 \times \left(\frac{1}{2}\right)^5 \times \left(\frac{1}{2}\right)^6$

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48. Simplify the following : $(-2)^7 \times (-2)^3 \times (-2)^4$

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49. Simplify the following : $4^4 \times \left(\frac{5}{4}\right)^4$

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50. Simplify the following : $\left[\frac{5^{-4}}{5^{-6}}\right] \times 5^3$

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51. Simplify the following : $(-3)^4 \times 7^4$

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52. Simplify : $2^2 \times \left(\frac{3^2}{2^{-2}}\right) \times 3^{-1}$

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53. Simplify : $(4^{-1} \times 3^{-1}) \div 6^{-1}$

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54. Simplify and give reason : $(4^0 + 5^{-1}) \times 5^2 \times \frac{1}{3}$

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55. Simplify and give reason : $\left(\frac{1}{2}\right)^{-3} \times \left(\frac{1}{4}\right)^{-3} \times \left(\frac{1}{5}\right)^{-3}$

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56. Simplify and give reason : $(2^{-1} + 3^{-1} + 4^{-1}) \times \frac{3}{4}$

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57. Simplify and give reason : $\frac{3^{-2}}{3} \times (3^0 - 3^{-1})$

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58. Simplify and give reason : $1 + 2^{-1} + 3^{-1} + 4^0$

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59. Simplify and give reason : $\left[\left(\frac{3}{2}\right)^{-2}\right]^2$

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60. Simplify and give reasons : $\left[(3^2 - 2^2) \div \frac{1}{5}\right]^2$

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61. Simplify and give reasons : $\left[(5^2)^3 \times 5^4\right] \div 5^6$

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62. Find the value of 'n' in each of the following :

$$\left(\frac{2}{3}\right)^3 \times \left(\frac{2}{3}\right)^5 = \left(\frac{2}{3}\right)^{n-2}$$

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63. Find the value of 'n' in each of the following :

$$(-3)^{n+1} \times (-3)^5 = (-3)^{-4}$$

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64. Find the value of 'n' in each of the following : $7^{2n+1} \div 49 = 7^3$

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65. Find 'x' if $2^{-3} = \frac{1}{2^x}$

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66. Simplify : $\left[\left(\frac{3}{4} \right)^{-2} \div \left(\frac{4}{5} \right)^{-3} \right] \times \left(\frac{3}{5} \right)^{-2}$

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67. If $m = 3$ and $n = 2$ find the value of $9m^2 - 10n^3$

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68. If $m = 3$ and $n = 2$ find the value of $2m^2n^2$

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69. If $m = 3$ and $n = 2$ find the value of $2m^3 + 3n^2 - 5m^2n$

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70. If $m = 3$ and $n = 2$ find the value of $m^n - n^m$

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71. Simplify and give reasons $\left(\frac{4}{7}\right)^{-5} \times \left(\frac{7}{4}\right)^{-7}$

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72. Change the numbers into standard form and rewrite the statements: The distance from the Sun to Earth is 149,600,000,000 m

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73. Change the numbers into standard form and rewrite the statements: The average radius of the Sun is 695000 km

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74. Change the numbers into standard form and rewrite the statements: The thickness of human hair is in the range of 0.08 mm - 0.12 mm.

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75. Change the numbers into standard form and rewrite the statements: The height of Mount Everest is 8848 m

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76. Write the following numbers in the standard form : 0.0000456

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77. Write the following numbers in the standard form : 0.000000529



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78. Write the following numbers in the standard form :

0.0000000085



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79. Write the following numbers in the standard form : 6020000000



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80. Write the following numbers in the standard form :

35400000000



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81. Write the following numbers in the general form :

$$0.000437 \times 10^4$$

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82. Express the following in the standard form : 4.67×10^4

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83. Express the following in the general form : 1.0001×10^9

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84. Express the following in the standard form : 3.02×10^{-6}

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85. Express the following numbers in the standard form :

0.000000000947



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86. Express the following numbers in the standard form :

543000000000



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87. Express the following numbers in the standard form : 48300000



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88. Express the following numbers in the standard form :

0.00009298



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89. Express the following numbers in the standard form : 0.0000529



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90. Express the following numbers in the usual form : 4.37×10^5



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91. Express the following numbers in the usual form: 5.8×10^7



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92. Express the following numbers in the usual form: 32.5×10^{-4}



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93. Express the following numbers in the usual form : 3.71529×10^7

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94. Express the following numbers in the usual form: 3789×10^{-5}

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95. Express the following numbers in the usual form : 24.36×10^{-3}

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96. Express the following information in the standard form : Size of the bacteria is 0.0000004 m

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97. Express the following information in the standard form : The size of red blood cells is 0.000007 mm.

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98. Express the following information in the standard form : The speed of light is 300000000 m/sec.

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99. Express the following information in the standard form :The distance between the moon and the earth is 384467000 m (app).

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100. Express the following information in the standard form : The charge of an electron is 0.00000000000000000016 coulombs.

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101. Express the following information in the standard form : Thickness of a piece of paper is 0.0016 cm.

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102. Express the following information in the standard form : The diameter of a wire on a computer chip is 0.000005 cm.

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103. In a pack, there are 5 books, each of thickness 20 mm and 5 paper sheets each of thickness 0.016 mm. What is the total thickness of the pack ?

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104. Rakesh solved some problems of exponents in the following way. Do you agree with the solutions ? If not why ? Justify your argument : $x^{-3} \times x^{-2} = x^{-6}$

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105. Rakesh solved some problems of exponents in the following way. Do you agree with the solutions ? If not why ? Justify your argument : $\frac{x^3}{x^2} = x^4$

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106. Rakesh solved some problems of exponents in the following way. Do you agree with the solutions ? If not why ? Justify your

argument : $(x^2)^3 = x^{2^3} = x^8$

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107. Rakesh solved some problems of exponents in the following way. Do you agree with the solutions ? If not why ? Justify your

argument : $x^{-2} = \sqrt{x}$

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108. Rakesh solved some problems of exponents in the following way. Do you agree with the solutions ? If not why ? Justify your

argument : $3x^{-1} = \frac{1}{3x}$

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109. $a^m \times b^m =$

A. $\left(\frac{a}{b}\right)^m$

B. $(ab)^m$

C. $\left(\frac{b}{a}\right)^m$

D. $(ab)^{2m}$

Answer:



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110. Simplify and express the following as single exponent :

$$(-5)^{-3} \times (-5)^{-4}$$

A. $(-5)^{-7}$

B. $(-5)^7$

C. $\frac{1}{(5)^7}$

D. $\frac{1}{(-5)^{-7}}$

Answer:



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111. If $2^{7x-7} = 1$ then $x =$

A. 1

B. 2

C. 0

D. 3

Answer:



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112. Simplify: $\left(\frac{2}{5}\right)^{-3} \times \left(\frac{25}{4}\right)^{-2}$

A. $\frac{-5}{2}$

B. $-\frac{2}{5}$

C. $\frac{5}{2}$

D. $\frac{2}{5}$

Answer:

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113. Which of the following is not true ?

A. $(x^{-3})^2 = x^{-6}$

B. $x^{-2} = \sqrt{x}$

C. $\frac{x^{-3}}{x^{-2}} = \frac{1}{x}$

D. $x^{-3} \times x^{-5} = x^{-8}$

Answer:

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114. Express the following numbers in the standard form : 48300000

A. 438×10^8

B. $\frac{438}{10^5}$

C. 438×10^8

D. 438×10^{-8}

Answer:

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115. The general form of 4.67×10^4 is

A. 47670

B. 4767000

C. 476700

D. 46700

Answer:

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116. Write the following numbers in the standard form :

$$0.000437 \times 10^4$$

A. 437×10^5

B. 4.37×10

C. 473×10^{-2}

D. 437×10^{-2}

Answer:

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117. $\frac{a^m}{a^n} = \text{-----}$

A. m

B. -1

C. 1

D. a

Answer:

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118. $\left(\frac{a}{b}\right)^m = \underline{\hspace{2cm}}$

A. $\frac{a^m}{b^m}$

B. $\frac{a^m}{b}$

C. $\frac{a}{b^m}$

D. ab^m

Answer:



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119. $a^{-n} = \underline{\hspace{2cm}}$

A. $-a^n$

B. $\frac{1}{a^n}$

C. $-a$

D. $-n^a$

Answer:



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120. $a^m \times a^{-m} = \underline{\quad}$

A. m

B. 3

C. -1

D. 1

Answer:



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121. $(2^0 - 3^0) \times 4^0 = \underline{\hspace{2cm}}$

A. 1

B. 0

C. -1

D. 1

Answer:



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122. The general form of 1.275×10^3 is $\underline{\hspace{2cm}}$

A. 1275×10^{100}

B. 1257×10^5

C. 1275×10

D. 1275

Answer:



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123. $8^{x+1}=1$ then $x=$ _____

A. 1

B. -1

C. -2

D. 3

Answer:



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124. $100^0 =$ _____

A. 3

B. -1

C. 100

D. 1

Answer:



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125. $2^{-4} = \frac{1}{2^n}$ then $n =$ _____

A. 3

B. -3

C. 4

D. -4

Answer:

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126. $\frac{a^m}{a^n} = \text{-----}$

A. $\frac{1}{a^{n-m}}$

B. a^{n-m}

C. a^m

D. $\frac{1}{a^m - n}$

Answer:

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127. $a + a + a + \dots$ 2016 times = _____

A. 2016 a

B. a^{2016}

C. 2016^a

D. $2106^{a \times a}$

Answer:



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128. $2^{-1} + 1^{-1} = \underline{\hspace{2cm}}$

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

B. 1

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

D. $\frac{3}{2}$

Answer:



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129. $(100^0 + 2^{-1} + 1^{-1}) + 2^{-1} = \underline{\hspace{2cm}}$

A. 4

B. 3

C. -5

D. 5

Answer:



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130. $\frac{3^5}{3^{-6}} = \text{-----}$

A. 3^{11}

B. 3^7

C. 3^8

D. 3^{10}

Answer:



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131. $\left[\left(\frac{2}{5} \right)^{-1} \right]^{-1} = \text{-----}$

A. $\frac{5}{2}$

B. $\frac{1}{5}$

C. $\frac{2}{5}$

D. $\frac{5}{1}$

Answer:



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132. $(-2)^2 = \underline{\hspace{2cm}}$

A. 4

B. -4

C. 3

D. 2

Answer:



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133. $a + a + a + \dots$ n times = _____

A. na

B. a^n

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

D. a

Answer:



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134. Reciprocal of $\left(-\frac{5}{9}\right)^{99}$ is _____

A. $\frac{5}{9}$

B. $\frac{9}{5}$

C. 9^{99}

D. None

Answer:



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135. Which of the following is correct ?

A. $a^m \times a^{-n} = a^{m-n}$

B. $a^m \times b^m = a(b)^m$

C. $a^0 = 1, a=0$

D. $(ab)^{-1} = a^{-1}$

Answer:



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136. $(xy)^{-2} \cdot (xy)^2 = \underline{\hspace{2cm}}$

A. x

B. y^2

C. xy

D. 1

Answer:



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137. Cube of $\frac{-1}{2} = \underline{\hspace{2cm}}$

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

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

C. 8

D. -2

Answer:



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138. $(2^{-2})^{-3} = \underline{\hspace{2cm}}$

A. 31

B. 60

C. 32

D. 64

Answer:



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139. $a^3 \times a^{-10} = \underline{\hspace{2cm}}$

A. a^{10}

B. a^6

C. a^7

D. a^{-7}

Answer:



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140. $7^{x+3} = 5^{x+3}$ then $x = \underline{\hspace{2cm}}$

A. -1

B. -3

C. -4

D. 5

Answer:



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141. $\left(\frac{4}{3}\right)^{-2} = \text{-----}$

A. $\frac{9}{16}$

B. $\frac{14}{3}$

C. $\frac{16}{9}$

D. $\frac{9}{17}$

Answer:



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142. $(-9)^3 + 9^3 = \underline{\hspace{2cm}}$

A. -1

B. 1

C. 3

D. 0

Answer:



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143. $\frac{x^7}{x^{12}} = \underline{\hspace{2cm}}$

A. x^5

B. x^{-5}

C. x^6

D. x^7

Answer:



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144. $\left(\frac{1}{2016}\right)^0 = \text{-----}$

A. 0

B. -1

C. 6

D. 1

Answer:



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145. The general form of 1.275×10^3 is _____

A. 0.00234

B. 0.00423

C. 0.0023

D. 2.03E-5

Answer:



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146. The standard form of 23,40,00,000 is _____

A. 2.34×10^8

B. 3.24×10^6

C. 3.34×10^6

D. 8.15×10^9

Answer:



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147. $(7^{-1} - 18^{-1})^0 = \underline{\hspace{2cm}}$

A. -1

B. 0

C. 1

D. 7

Answer:



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148. If we divide 8^5 by ___ we get 8.

A. 8^{10}

B. 8^6

C. 8^5

D. 8^4

Answer:



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149. $10^{-3} = \underline{\hspace{2cm}}$

A. $\frac{1}{200}$

B. $\frac{1}{100}$

C. $\frac{1}{10}$

D. $\frac{1}{1000}$

Answer:

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150. $\left(\frac{1}{2}\right)^{-2} \div \left(\frac{1}{2}\right)^{-2} = \text{-----}$

A. $\left(\frac{1}{2}\right)^3$

B. 1

C. 1

D. -2

Answer:

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151. $(2^5 \div 2^6) \times 2 = \underline{\hspace{2cm}}$

- A. 1
- B. -2
- C. 3
- D. -1

Answer:



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152. $5^{3x-1} \div 25 = 125$ then $x = \underline{\hspace{2cm}}$

- A. -2
- B. 2
- C. 4

D. 3

Answer:



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153. $\frac{6^{-2}}{6^n} = 6^{-3}$ then $n = \underline{\hspace{2cm}}$

A. 2

B. 1

C. -1

D. 3

Answer:



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154. $\frac{5^m \times 5^3 \times 5^{-2}}{5^{-5}} = 5^{12}$ then $m = \underline{\quad}$

A. 1

B. 4

C. 3

D. None

Answer:



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155. $2^{10} = \underline{\quad}$

A. 1042

B. 512

C. 1024

D. -1204

Answer:



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156. Which of the following is correct?

A. $\frac{1}{4}(2^n) = 2^{n-2}$

B. $4^{n-1} = 4^n$

C. $4^m \times 4^{-m} = 4^{-2}m$

D. $25(5^n) = 5^n - 1$

Answer:



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157. $3x^{-1} = \underline{\hspace{2cm}}$

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

B. $\frac{1}{3x}$

C. $\frac{3^{-1}}{x^2}$

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

Answer:



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158. Express the following in the standard form : 4.67×10^4

A. 0.4236

B. 0.243

C. 24.36

D. 0.02436

Answer:

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159. Simplify and give reason : $(4^0 + 5^{-1}) \times 5^2 \times \frac{1}{3}$

A. -10

B. 10

C. $\frac{1}{10}$

D. - 3

Answer:

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160. Simplify and give reason : $1 + 2^{-1} + 3^{-1} + 4^0$

A. $\frac{1}{6}$

B. $\frac{6}{7}$

C. $\frac{7}{6}$

D. $\frac{17}{6}$

Answer:



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161. $3^0 - 3^{-1} = \underline{\hspace{2cm}}$

A. $\frac{2}{3}$

B. $\frac{3}{2}$

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

D. 1

Answer:



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162. $m = 3, n = 1$ then $m^n - n^m =$ _____

A. 4

B. 1

C. -2

D. 2

Answer:



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163. Find the value of 'n' in each of the following : $7^{2n+1} \div 49 = 7^3$

A. -2

B. 2

C. 3

D. -3

Answer:



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164.

Verify

the:

$$(-21) \times [(-4) + (-6)] = [(-21) \times (-4)] + [(-21) \times (-6)]$$

A. 345.6

B. 453.67

C. 841.7

D. 543.67

Answer:



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165. Simplify the following : $3^4 \times 4^3$

A. 1584

B. 5184

C. 8122

D. 1811

Answer:



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166. $\sqrt[5]{32} =$

A. 2^3

B. 18

C. 12

D. 2

Answer:



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167. $\frac{2401}{625} =$ -----

A. $\left(\frac{5}{7}\right)^4$

B. $\left(\frac{7}{5}\right)^4$

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

D. $\left(\frac{7}{4}\right)^4$

Answer:

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168. $\left(\left(\left(\frac{1}{4}\right)^2\right)^3\right) = \text{-----}$

A. $\frac{1}{3092}$

B. $\frac{1}{6096}$

C. $\frac{1}{3096}$

D. $\frac{1}{4096}$

Answer:

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169. $\left(\frac{4}{5}\right)^3 \times \left(\frac{4}{5}\right)^{-6} = \left(\frac{4}{5}\right)^{2x-1}$, $x = \underline{\hspace{2cm}}$

A. -1

B. 2

C. 1

D. 4

Answer:



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170. The standard form of 622 / 100, 00, 00, 000 is _____

A. 622×10^7

B. 6.22×10^{-7}

C. 266×10^{-7}

D. 6.22×10^{-6}

Answer:



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171. $3^0 + 4^0 - 5^0 - 3^0 = \underline{\hspace{2cm}}$

A. 4

B. 3

C. 1

D. 0

Answer:



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172. $-4^{-1} + 8^{-1} \div \left(\frac{2}{3}\right)^{-1} = \underline{\hspace{2cm}}$

A. -1

B. $-\frac{1}{6}$

C. 6

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

Answer:



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173. $\left(-\frac{1}{5}\right)^{-1} = \underline{\hspace{2cm}}$

A. 3

B. -1

C. 5

D. -5

Answer:



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174. $\left(\frac{2}{3}\right)^{-3} = \underline{\hspace{2cm}}$

A. $\frac{27}{8}$

B. $\frac{7}{8}$

C. $\frac{1}{7}$

D. $\frac{1}{6}$

Answer:



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175. $64^{-(0.5)} = \underline{\hspace{2cm}}$

A. -4

B. -8

C. 8

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

Answer:



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176. $1 + (9 - 10)^{-5} = \underline{\hspace{2cm}}$

A. 0

B. -1

C. 3

D. 2

Answer:



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177. $x=3^{400}$, $y = 4^{300}$ then _____

A. $x < y$

B. $x=y$

C. $x^2 = y$

D. $x > y$

Answer:



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178. $64^{2/3} = \underline{\hspace{2cm}}$

A. 12

B. 16

C. 10

D. -4

Answer:



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179. $\sqrt[4]{81}$ యొక్క ఘాతరుపము

A. 3

B. 4

C. 5

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

Answer:



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180. $\left[\left((3^2)^3 \right)^4 \right] = \underline{\quad}$

A. 3^{12}

B. 3^{18}

C. 3^{20}

D. 3^{24}

Answer:



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181. $2^4 \times (32)^{-1} = \underline{\hspace{2cm}}$

A. $\frac{-1}{2}$

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

C. -2

D. $\frac{1}{7}$

Answer:



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182. Base in $2x^{-3}$ is _____

A. 2

B. x

C. -3

D. $2x$

Answer:



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183. $(125)^{-2/3} = \underline{\hspace{2cm}}$

A. 25

B. $\frac{1}{-10}$

C. $\frac{1}{25}$

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

Answer:



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184. Use differential to approximate $(25)^{\frac{1}{3}}$.

A. $\frac{5}{7}$

B. $\frac{1}{7}$

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

D. -3

Answer:



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185. If the arithmetic mean between a and b is $\frac{a^{n+1} + b^{n+1}}{a^n + b^n}$, then n

=

A. 28

B. 38

C. 48

D. $\frac{41}{8b}$

Answer:



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186. $(x^{-1} + y^{-1})xy = \underline{\hspace{2cm}}$

A. ab

B. $a-b$

C. $\frac{1}{a+b}$

D. $a+b$

Answer:



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187. $(a^0)^0 = \underline{\hspace{2cm}}$

A. a

B. 1

C. -1

D. None

Answer:

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188. $\left(\frac{a^n}{a^m}\right)^{m+n} \times \left(\frac{a^l}{a^n}\right)^{n+l} \times \left(\frac{a^m}{a^l}\right)^{l+m} = \underline{\hspace{2cm}}$

A. 0

B. 1

C. -1

D. -3

Answer:

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189. $\frac{x^{3/4} \cdot \sqrt{y}^{-4}}{y^2 \cdot \sqrt{x}^{-3}} \times \frac{y^3 \sqrt{x}^9 / 2}{y^{-2} \sqrt{x}^9} = \text{-----}$

A. y

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

C. $-y$

D. 1

Answer:

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190. $9^x + 9^{x-1} = 90$ then $x =$ _____

A. 2

B. -2

C. 3

D. 4

Answer:



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191. $10^{-3x} = 8$ then $10^x =$ _____

A. $\frac{1}{4}$

B. -2

C. 2

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

Answer:

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192. $x = \sqrt{2}$ then $(x^x)^x = \underline{\hspace{2cm}}$

A. 2

B. $\frac{1}{4\sqrt{2}}$

C. $\frac{1}{3\sqrt{2}}$

D. $\frac{1}{5\sqrt{2}}$

Answer:

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193. $\frac{2^{n+2} - 2^{n+1}}{4 \times 2^{n-1}} = \underline{\hspace{1cm}}$

A. 3

B. -1

C. 7

D. 1

Answer:



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194. $5^{7-x} = 5^0$ then $x = \underline{\hspace{1cm}}$

A. 13

B. 7

C. 3

D. 4

Answer:



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195. If $9^x - 9^{x-1} = 72$ then the value of $3x =$ _____

A. 6

B. -3

C. -6

D. 4

Answer:



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196. $\frac{1}{81}$ th value of 729 is ___

A. 9^2

B. -9

C. 10

D. 9

Answer:



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197. By what number should 3^{-4} be multiplied, such that the product is 729?

A. 3^{10}

B. 3^7

C. 3^9

D. 3^6

Answer:



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198. $2^n = 2$ then $2^{n+3} = \underline{\hspace{2cm}}$

A. 23

B. 19

C. 10

D. 16

Answer:



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199. $16^{1.25} = \underline{\hspace{2cm}}$

A. 30

B. 19

C. 32

D. 16

Answer:

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200. $a^{x(y-z)} \times a^{y(z-x)} \times a^{z(x-y)} = \underline{\hspace{2cm}}$

A. 3

B. 1

C. -1

D. 0

Answer:



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201. $a = 1, b = 2$ then $a^b + b^a =$ _____

A. 4

B. 3

C. 2

D. 13

Answer:



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202. $2^{x+3} = 4^{x+1}$ then $x =$ _____

A. 4

B. 3

C. 2

D. 1

Answer:



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203. $\left(\frac{-2}{3}\right)^{-4} \times \left(\frac{-3}{5}\right)^2 =$

A. $\frac{729}{400}$

B. $\frac{9}{250}$

C. $\frac{350}{9}$

D. $\frac{1}{90}$

Answer:

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204. $\left(\frac{1}{2}\right)^{-2} + \left(\frac{1}{3}\right)^{-2} + \left(\frac{1}{4}\right)^{-2} = \underline{\quad}$

A. 16

B. 19

C. 29

D. 32

Answer:

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205. $(6^{-1} - 8^{-1})^{-1} + (2^{-1} - 3^{-1})^{-1} = \underline{\hspace{2cm}}$

A. 60

B. 30

C. 20

D. 16

Answer:



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206. $\frac{-1}{6} \times \frac{-1}{6} \times \frac{-1}{6} = \underline{\hspace{2cm}}$

A. $\frac{-1}{206}$

B. $\frac{-1}{16}$

C. $\frac{1}{21}$

D. $-\frac{1}{216}$

Answer:



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207. Simplify: $\sqrt[4]{81} - 8\sqrt[3]{343} + 15\sqrt[5]{32} + \sqrt{225}$

A. 3

B. 2

C. 0

D. 1

Answer:



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208. $(12544)^{1/2} = \underline{\hspace{2cm}}$

A. 114

B. 132

C. 112

D. 122

Answer:



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209. The value of $(2^{-1} + 3^{-1})^2$

A. $\frac{24}{25}$

B. $\frac{27}{36}$

C. $\frac{23}{35}$

D. $\frac{25}{36}$

Answer:

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210. If $x = \left(\frac{3}{2}\right)^2 \times \left(\frac{2}{3}\right)^{-4}$ then the value of x^{-2} is

A. $\left(\frac{2}{3}\right)^8$

B. $\left(\frac{3}{2}\right)^{12}$

C. $\left(\frac{2}{3}\right)^{12}$

D. $\left(\frac{2}{3}\right)^{-2}$

Answer:

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211. For which value of n , the value of $(-2)^n$ becomes positive?

A. 11

B. -3

C. 13

D. -2

Answer:



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212. Which is not correct among the given?

A. $(x^{-3})^2 = x^{-6}$

B. $x^{-2} = \sqrt{x}$

C. $\frac{x^{-3}}{x^{-2}} = \frac{1}{x}$

D. $x^3 \times x^{-5} = x^{-8}$

Answer:

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213. The appropriate value of $\frac{-8}{27}$ among the given is: (1). $\left(\frac{2}{3}\right)^{-3}$,

(2). $\left(-\frac{2}{3}\right)^{-3}$, (3). $\left(-\frac{2}{3}\right)^{-3}$, (4).

$$\left(-\frac{2}{3}\right) \times \left(-\frac{2}{3}\right) \times \left(-\frac{2}{3}\right)$$

A. 1

B. 1 and 2

C. 3 and 4

D. 2

Answer:

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214. Arun has a paper having its thickness as 0.0015 cm. Then its standard form in cm is

A. 15×10^{-4}

B. 15×10^{-3}

C. 1.5×10^{-3}

D. 1.5×10^{-4}

Answer:

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215. The expanded form of decimal number 543.67 when we use exponents is

A. $5 \times 10^2 + 4 \times 10^1 + 3 \times 10^0 + 6 \times 10^{-1} + 7 \times 10^2$

B. $5 \times 10^3 + 4 \times 10^2 + 3 \times 10^1 + 6 \times 10^{-1} + 7 \times 10^{-2}$

C. $5 \times 10^{-1} + 4 \times 10^2 + 3 \times 10^3 + 6 \times 10^{-1} + 7 \times 10^{-2}$

D. $5 \times 10^2 + 4 \times 10^1 + 3 \times 10^0 + 6 \times 10^{-2} + 7 \times 10^{-1}$

Answer:



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