



MATHS

BOOKS - MOTHERS

NUMBER SYSTEM

O

1. Find out the unit digit in the following expression ?

$$31 \times 37 \times 36 \times 46 \times 89$$

A. 2

B. 8

C. 6

D. 1

Answer: b

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2. Find out the unit digit in the following expression ?

$$91 \times 93 \times 95 \times 97 \times 98$$

A. 2

B. 3

C. 0

D. 4

Answer: c

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3. Find the unit digit of the product of all the odd prime numbers.

A. 5

B. 2

C. 9

D. 4

Answer: a



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4. Find out the unit digit in the following expression.

$$584 \times 328 \times 547 \times 613$$

A. a) 4

B. b) 8

C. c) 2

D. d) 5

Answer: c



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5. Find out the unit digit in the product of all the even numbers.

A. a) 5

B. b) 2

C. c) 0

D. d) 4

Answer: c



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6. Find out the unit digit in $4!$

A. a) 8

B. b) 5

C. c) 0

D. d) 4

Answer: d



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7. Find out the unit digit in $5!$

A. 0

B. 5

C. 2

D. 4

Answer: a



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8. Find out the unit digit in $(6736)^{32567}$

A. 2

B. 6

C. 4

D. 8

Answer: b



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9. Find out the unit digit in $(67354)^{1237}$

A. 8

B. 4

C. 6

D. 5

Answer: b



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10. Find out the unit digit in $(3259)^{1214}$

A. 9

B. 3

C. 7

D. 1

Answer: d



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11. Find out the unit digit in the following expression $(2137)^{753}$

A. 9

B. 7

C. 3

D. 5

Answer: b



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12. Find out the unit digit in $(13)^{2003}$

A. A. 3

B. B. 9

C. C. 1

D. D. 7

Answer: d



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13. Find out the unit digit in $(22)^{23}$

A. 8

B. 2

C. 6

D. 4

Answer: a



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14. Find out the unit digit in -

$$(23)^{21} \times (24)^{22} \times (26)^{23} \times (27)^{24} \times (25)^{25}$$

A. 2

B. 4

C. 0

D. 5

Answer: c



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15. Find out the unit digit in -

$$(235)^{215} + (314)^{326} + (6736)^{213} + (3167)^{112}$$

A. 2

B. 0

C. 8

D. 5

Answer: c



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16. Find out the unit digit in $\frac{12^{55}}{3^{11}} + \frac{8^{48}}{16^{18}}$

A. 2

B. 4

C. 0

D. 6

Answer: c



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17. Find out the unit digit in the following expression -

$$(3694)^{1793} \times (615)^{317} \times (841)^{941}$$

A. 5

B. 3

C. 0

D. 4

Answer: d



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18. Find out the unit digit in the $(7^{95} - 3^{58})$

A. A. 7

B. B. 3

C. C. 4

D. D. 0

Answer: c



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19. Find out the unit digit in the -

$$(17)^{1999} + (11)^{1999} - (7)^{1999}$$

A. 0

B. 1

C. 2

D. 7

Answer: b



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20. Find out the unit digit in the $111!$

A. 0

B. 1

C. 5

D. 3

Answer: a



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21. Find out the unit digit in the following expression -

$$1^3 + 2^3 + 3^3 + 4^3 \dots + 99^3$$

A. 0

B. 1

C. 2

D. 5

Answer: a



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22. Find out the unit digit in product of all prime numbers in between 1 and 99999.

A. 9

B. 7

C. 0

D. None of these

Answer: c

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23. The set of all the prime numbers which are greater than 2 but less than 222, Find the unit digit in the product of the set ?

A. 4

B. 5

C. 0

D. None of these

Answer: b

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24. Find out the unit digit in the -

$$\frac{1 \times 2 \times 3 \times 4 \times 5 \times 6 \times 7 \times 8 \times 9 \times 10}{100}$$

A. 7

B. 9

C. 8

D. None of these

Answer: c



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25. Find out the unit digit in the -

$$888^{92335!} + 222^{9235!} + 666^{2359!} + 9999^{9999!}$$

A. 5

B. 9

C. 3

D. None of these

Answer: b



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26. The last digit of the following expression is :

$$(1!)^1 + (2!)^2 + (3!)^3 + (4!)^4 + \dots (10!)^{10}$$

A. 4

B. 5

C. 6

D. 7

Answer: d



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27. If the unit digit in $(12345k)^{72}$ is 6. Then find the value of K.

$$(12345K)^{72}$$

A. 8

B. 6

C. 2

D. All of these

Answer: d



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28. The last number in the expression

$$4 + 9^2 + 4^3 + 9^4 + 4^5 + 9^6 + \dots + 4^{99} + 9^{100}$$

A. 0

B. 3

C. 5

D. None of these

Answer: a



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29. Find out the unit digit in the simplified form of

$$[(251)^{99} + (21)^{39} - (106)^{100} + (705)^{35} - 16^4 + 259]$$

A. 1

B. 6

C. 4

D. 5

Answer: c



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30. The unit digit of $71 \times 72 \times \dots \times 79$ is

A. a) 0

B. b) 4

C. c) 6

D. d) 7

Answer: a



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31. In $13799 \times 96 \times 996$, the tenth place digit is?

A. 3

B. 4

C. 5

D. 8

Answer: d



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32. In $596 \times 17394 \times 15353 \times 296 \times 427$, the tenth place digit is?

A. 1

B. 2

C. 3

D. 5

Answer: b



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33. In $357 \times 265 \times 239 \times 1352$, the last two digits are?

A. 20

B. 33

C. 40

D. 45

Answer: c



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34. Find unit digit in $(11)^1 \cdot (12)^2 \cdot (13)^3 \cdot (14)^4 \cdot (15)^5 \cdot (16)^6$.

A. 3

B. 0

C. 2

D. 5

Answer: b



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35. Find the number of Zeros at the end of the product -

$$12 \times 27 \times 63 \times 113 \times 1250 \times 24 \times 650$$

A. 2

B. 6

C. 4

D. 8

Answer: b



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36. Find the number of highest power of 3 in 270!

A. 134

B. 130

C. 140

D. 135

Answer: a



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37. Find the number of highest power of 7 in 777!

A. a)128

B. b)130

C. c)126

D. d)125

Answer: a



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38. The number of zeros at the end of $100!$ is :

A. 20

B. 22

C. 24

D. 25

Answer: c



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39. Find the number of Zeros at the end of the given product

$$1^5 \times 2^5 \times 3^5 \dots 32^5$$

A. a) 35

B. b) 40

C. c) 36

D. d) 32

Answer: a



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40. Find the number of Zeros at the end of the given expression?

$$a = 1^3, b = 2^4, c = 3^5, \dots, z = 26^{28}, a \times b \times c \times d \dots \times z$$

A. 112

B. 110

C. 118

D. 115

Answer: a



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41. Find the number of Zeros at the end of $378!$

A. 93

B. 90

C. 75

D. 81

Answer: a



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42. Find the number of zeros at the end of $1000!$.

A. 200

B. 249

C. 248

D. 250

Answer: b



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43. Find the number of Zeros at the end of the product -

$$12 \times 5 \times 15 \times 24 \times 13 \times 30 \times 75$$

A. 4

B. 5

C. 2

D. 3

Answer: b

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44. Find the number of Zeros at the end of the product -

$$1 \times 3 \times 5 \times 7 \times 9 \times 11 \dots 99 \times 101$$

A. 24

B. 5

C. 2

D. 0

Answer: d

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45. Find the number of Zeros at the end of the product -

$$140! \times 5 \times 15 \times 22 \times 11 \times 44 \times 135$$

A. 34

B. 35

C. 36

D. 37

Answer: d



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46. Find the number of Zeros at the end of the product -

$$25! \times 32! \times 45!$$

A. 10

B. 23

C. 22

D. 7

Answer: b



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47. Find the number of Zeros at the end of the product -

$$3^3 \times 4^4 \times 5^5 \dots 49^{49}$$

A. 225

B. 250

C. 240

D. 245

Answer: b



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48. Find the total numbers from 100 to 200, which are neither divisible by 3 nor by 5.



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49. Find the number of Zeros at the end of the product -

$$1^{11} \times 2^{21} \times 3^{31} \times 4^{41} \dots\dots 10^{101}$$

A. a)51

B. b)10

C. c)5! + 10!

D. d) None of these

Answer: c



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50. Find the number of Zeros at the end of the product -

$$2^3 \times 5^4 \times 4^2 \times 10^8 \times 6^{10} \times 15^{12} \times 8^{14} \times 20^{16} \times 10^{18} \times 25^{20}$$

A. 80

B. 98

C. 94

D. 100

Answer: a



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51. Find the number of Zeros at the end of the product -

$$3200 + 1000 + 40000 + 32000 + 15000$$

A. 15

B. 13

C. 2

D. 3

Answer: c



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52. Find the number of Zeros at the end of the product -

$$20 \times 40 \times 7600 \times 600 \times 300 \times 1000$$

A. 11

B. 10

C. 2

D. 3

Answer: a



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53. Find the number of Zeros -

$$100! + 200!$$

A. 24

B. 25

C. 49

D. None of these

Answer: a



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54. Find the number of Zeros -

$$100! \times 200!$$

A. 49

B. 24

C. 73

D. None of these

Answer: c



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55. Find the number of Zeros -

$$2^{222} \times 5^{555}$$

A. 222

B. 555

C. 777

D. 333

Answer: a



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56. Find the number of Zeros at the end of the expression -

$$10 + 100 + 1000 + \dots + 1000000000$$

A. 8

B. 28

C. 0

D. 1

Answer: d



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57. Find the number of Zeros at the end of the product -

$$2^1 \times 5^2 \times 2^3 \times 5^4 \times 2^5 \times 5^6 \times 2^7 \times 5^8 \times 2^9 \times 5^{10}$$

A. 30

B. 25

C. 55

D. 50

Answer: b



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58. Find the number of Zeros at the end of the expression -

$$(3^{123} - 3^{122} - 3^{121})(2^{121} - 2^{120} - 2^{119})$$

A. a) 1

B. b) 0

C. c) 119

D. d) 120

Answer: a



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59. Find the number of Zeros at the end of the given expression -

$$(8^{123} - 8^{122} - 8^{121})(3^{223} - 3^{222} - 3^{221})$$

A. a) 1

B. b) 2

C. c) 0

D. d) 3

Answer: b



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60. Find number of zeros in the end of

$$1^{20} \times 2^{20} \times 3^{20} \times 4^{20} \dots \dots \dots Xx38^{20}.$$

A. 160

B. 180

C. 150

D. 120

Answer: a



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61. Find number of zeros in the end of

$$1^3 \times 2^4 \times 3^5 \times \dots \times 26^{28}$$

A. 100

B. 112

C. 125

D. 128

Answer: b



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62. The numbers 2, 4, 6, 8 ..., 98. 100 are multiplied together. The number of zeros at the end of the product must be :

A. 13

B. 12

C. 11

D. 10

Answer: b



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63. Number of zeros in the end of

$$\left(1^1 \times 2^2 \times 3^3 \times 4^4 \times \dots \times 98^{98} \times 99^{99} \times 100^{100}\right)?$$

A. 1200

B. 1300

C. 1500

D. 1600

Answer: b



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64. Find the total number of factors of 240 -

A. 20

B. 25

C. 15

D. 22

Answer: a



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65. Find the total number of factors of 1420 ?

A. 12

B. 13

C. 14

D. 15

Answer: a



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66. Find the total number of Prime factors in the given expression ?

$$(30)^{25} \times (25)^{51} \times (12)^{23}$$

A. 249

B. 250

C. 255

D. 260

Answer: a



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67. Find the total number of Prime factors in the given expression ?

$$(30)^{15} \times (22)^{11} \times (15)^{24}$$

A. 110

B. 115

C. 120

D. 125

Answer: b



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68. Is divisible by -

$$(2^{71} + 2^{72} + 2^{73} + 2^{74})$$

A. 9

B. 10

C. 11

D. 13

Answer: b

69. A four digit number is formed repeating two digits two times. Like 2525, 3232 etc. such type of number always divisible by?

- A. 7
- B. 101
- C. 12
- D. 3

Answer: d

70. Which of the following number will also divide a 6 digit number which is in the sequence of $xyxyxy$. (Where $1 \leq x \leq 9, 1 \leq y \leq 9$).

- A. 1010

B. 10101

C. 11011

D. 11010

Answer: b



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71. If a number n is whole number, which is greater than 1. then $n^2(n^2 - 1)$ is always divisible by ?

A. 16

B. 12

C. 10

D. 8

Answer: b



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72. In the process of division, divisor is 10 times of quotient and 5 times of remainder. If remainder is 46, then dividend will be ?

A. 5382

B. 5290

C. 5336

D. 5330

Answer: c



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73. If a number is divided by 102, the remainder is obtained 91. If the same number is divided by 17, then remainder will be?

A. 6

B. 11

C. 0

D. 2

Answer: a



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74. When a number is divided by 899, remainder is obtained 63. If same number is divided by 29. then remainder will be ?

A. 10

B. 5

C. 4

D. 2

Answer: b



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75. When a number is divided by 52, remainder is obtained 45. If the same number is divided by 13, the remainder ?

A. 5

B. 6

C. 12

D. 7

Answer: b



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76. When a number is successively divided by 4 and 5. The remainder obtained are 1 and 4 respectively. when the same number is successively divided by 5 and 4, the remainder obtained are -?

A. 2 , 3

B. 3, 4

C. 2, 1

D. 3, 2

Answer: a



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77. A least number which when divide by 2, 3 and 5 successively, the remainder obtained are 1, 2 and 3 respectively. If the same number is divided by 7, the remainder obtained is -

A. 2

B. 3

C. 4

D. 5

Answer: c



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78. Find the least number which when divided by 4, 5 and 6 successively, the remainder obtained are 2, 1 and 1 respectively. If the sequence of successive divisors is reversed, the remainder obtained are ?

A. 2, 4 and 0

B. 1, 2 and 0

C. 1, 1 and 2

D. 2, 1 and 4

Answer: a



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79. Which of the following number does not completely divide $(29)^{37} + (17)^{37}$?

A. 2

B. 11

C. 23

D. 46

Answer: b



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80. Which of the following number does not completely divide $(3^{41} + 7^{82})$?

A. a) 4

B. b) 52

C. c) 17

D. d) 26

Answer: c



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81. $((49)^{15} - 1)$ is completely divisible by ?

A. 50

B. 51

C. 29

D. 8

Answer: d



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82. Which of the following number does not completely divide $23^{10} - 1024$?

A. 3

B. 5

C. 7

D. 4

Answer: d



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83. $3^{41} + 7^{82}$ will be divisible by ? 10 ,26, 51, 7.

A. 11

B. 16

C. 25

D. 30

Answer: d



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84. A number when divided by 6 leaves remainder 3. When the square of the same number is divided by 6, the remainder is:

- A. 0
- B. 1
- C. 2
- D. 3

Answer: d



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85. If n is an integer, then $(n^3 - n)$ is always divisible by :

- A. 4
- B. 5
- C. 6
- D. 7

Answer: c



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86. $(10^n - 1)$ is always divisible by 11, if

A. n is any number

B. n is an odd number.

C. n is an even no.

D. n is a multiple of 11

Answer: c



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87. $(49)^{15} - 1$ is exactly divisible by:

A. 50

B. 51

C. 29

D. 8

Answer: d



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88. If $9^6 - 11$ is divided by 8, the remainder is

A. a) 0

B. b) 1

C. c) 6

D. d) 3

Answer: c



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89. When 2^{34} is divided by 9 , the remainder will be?

A. a) 7

B. b) 8

C. c) 5

D. d) 6

Answer: a



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90. When 5^{507} is divided by 500, the remain- der will be?

A. 125

B. 1

C. 121

D. 4

Answer: a



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91. When number 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 is divided by 16, the remainder will be?

A. 6

B. 5

C. 7

D. 8

Answer: c



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92. When number 1 2 3 4 5 (76 digits) is divided by 16, the remainder will be?

A. 7

B. 0

C. 6

D. 2

Answer: b



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93. When number $x^2 + 7x + 15$ is divided by $(x - 5)$, the remainder will be?

A. 25

B. 30

C. 75

D. 45

Answer: c

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94. When number $x^{40} + 31$ is divided by $x^4 + 1$, the remainder will be?

A. 30

B. 32

C. 16

D. 48

Answer: b

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95. When 335 is added to 5A7, the result is 8B2, 8B2 is divisible by 3. What is the largest possible value of A?

A. 8

B. 5

C. 1

D. 4

Answer: d



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96. If the sum of the digits of any integer lying between 100 and 1000 is subtracted from the number itself, the result is always be:

A. divisible by 6

B. divisible by 2

C. divisible by 9

D. divisible by 5

Answer: c



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97. When (43×83) is divided by 21, the remainder obtained is ?

A. a) 1

B. b) 4

C. c) 20

D. d) 17

Answer: c



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98. The remainder of $\frac{130 + 147}{11}$ is?

A. 2

B. 9

C. 3

D. 5

Answer: a



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99. When $127 \times 139 \times 12653 \times 79 \times 18769$ is divided by 5, the remainder obtained is ?

A. 1

B. 2

C. 0

D. 4

Answer: d



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100. When $127 + 139 + 12653 + 79 + 18769$ is divided by 5, the remainder obtained is?

A. 2

B. 3

C. 1

D. 4

Answer: a



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101. When $(1750 + 1748 + 1752 + 70 + 35)$ is divided by 5, the remainder obtained is ?

A. 1

B. 0

C. 16

D. 2

Answer: b

102. When $\underline{1} + \underline{2} + \underline{3} + \underline{4} + \underline{5} + \dots + \underline{1000}$ is divided by 10, the remainder obtained is ?

A. 3

B. 1

C. 2

D. 9

Answer: a

103. When $\underline{1} + \underline{2} + \underline{3} + \underline{4} + \dots + \underline{1000}$ is divided by 12, the remainder obtained is?

A. 6

B. 5

C. 9

D. 7

Answer: c



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104. Find the last two digit in the product of -

$$39 \times 55 \times 57 \times 24 \times 13872 \times 9871$$

A. 2 and 0

B. 1 and 0

C. 1 and 1

D. 2 and 2

Answer: a



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105. The remainder of $\frac{(25)^{48}}{13}$?

A. 12

B. 11

C. 2

D. 1

Answer: d



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106. The remainder of $\frac{(36)^{13}}{7}$?

A. 1

B. 6

C. 2

D. 5

Answer: a



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107. When 2^{21} is divided by 9, the remainder obtained is ?

A. a) 1

B. b) 2

C. c) 8

D. d) 6

Answer: c



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108. When $(35)^{37}$ is divided by 9 the remainder obtained is ?

A. 7

B. 8

C. 2

D. 1

Answer: b



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109. When 7^{40} is divided by 400, the remainder obtained is ?

A. 1

B. 6

C. 2

D. 3

Answer: a



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110. When 2^{42} is divided by 33, the remainder obtained is ?

A. 29

B. 7

C. 4

D. 2

Answer: c



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111. When 3^{55} is divided by 82, the remainder obtained is ?

A. 27

B. 55

C. 65

D. 17

Answer: b



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112. When 11^{77} is divided by 7, the remainder obtained is ?

A. 2

B. 3

C. 5

D. 1

Answer: a



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113. $(32^{32})^{32}$ is divided by 7, the remainder obtained is ?

A. a) 4

B. b) 3

C. c) 5

D. d) 2

Answer: a



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114. $[48 + (62)^{117}]$ is divided by 9, the remainder obtained is ?

A. 7

B. 2

C. 4

D. 5

Answer: b



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115. is divisible by ?

$$x^{29} - x^{26} - x^{23} + 1$$

- A. $(x - 1)$, but not $(x + 1)$
- B. $(x + 1)$, but not $(x - 1)$
- C. Both $(x + 1)$ and $(x - 1)$
- D. Neither $(x + 1)$ nor $(x - 1)$

Answer: c



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116. If $(x + 1)$ and $(x - 1)$ are the factors of polynomial $ax^3 + bx^2 + 3x + 5$, then the value of a and b ?

A. $a = -2, b = -3$

B. $a = 3, b = 5$

C. $a = 2, b = 3$

D. $a = -3, b = -5$

Answer: d



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117. When $x^2 - 7x + 15$ is divided by $(x - 3)$, the remainder obtained is ?

A. 3

B. 1

C. 0

D. 2

Answer: a



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118. $x^{51} + 16$ is divided by $(x + 1)$, the remainder obtained is ?

- A. 1
- B. 2
- C. 0
- D. 15

Answer: d



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119. 777777 129 times is divided by 37, the remainder obtained is ?

- A. 0
- B. 37
- C. 1

D. 36

Answer: b



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120. 4444444444 divided by 13, the remainder obtained is ?

A. 11

B. 2

C. 0

D. 4

Answer: b



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121. When $10^1 + 10^2 + 10^3 + \dots + 10^{99} + 10^{100}$ is divided by 6, the remainder obtained is

- A. 2
- B. 4
- C. 0
- D. 1

Answer: b



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122. When $10^1 + 10^2 + 10^3 + \dots + 10^{32}$ is divided by 6, the remainder obtained is ?

- A. 4
- B. 5
- C. 2

D. 1

Answer: c



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123. When 75^{7575} is divided by 37, the remainder obtained is?

A. 1

B. 36

C. 3

D. 7

Answer: a



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124. When 41^{77} is divided by 17, the remainder obtained is ?

A. 2

B. 1

C. 6

D. 4

Answer: c



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125. When 1234567891011121314 is divided by 8, the remainder obtained is ?

A. 4

B. 2

C. 6

D. 3

Answer: b

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126. When 123441 digits, is divided by 8, the remainder obtained is ?

A. 1

B. 2

C. 3

D. 4

Answer: a

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$$\underline{1} + \underline{2} + \underline{3} + \underline{4} \dots\dots\dots \underline{100}$$

127. When , is divided by 5, the remainder obtained is ?

A. 0

B. 1

C. 2

D. 3

Answer: d



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$$\underline{1} + \underline{2} + \underline{3} + \underline{4} \dots\dots\dots \underline{50}$$

128. When _____, is divided by 12, the remainder obtained is ?

A. 2

B. 8

C. 7

D. 9

Answer: d

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129. When 5^{2450} is divided by 126, the remainder obtained is ?

A. 5

B. 25

C. 125

D. 1

Answer: b

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130. When $10^1 + 10^2 + 10^3 + \dots + 10^{1000} + 10^{1001}$ is divided by 6, the remainder obtained is ?

A. 4

B. 6

C. 2

D. 3

Answer: c



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131. When 666666 134 times, is divided by 13, the remainder obtained is?

A. 1

B. 3

C. 11

D. 9

Answer: a



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132. When 777777 363 times, is divided by 11, the remainder obtained is?

A. 10

B. 7

C. 3

D. 8

Answer: b



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133. When 7^{99} is divided by 2400, the remainder obtained is ?

A. 1

B. 49

C. 343

D. 7

Answer: c



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134. When 54^{124} is divided by 17, the remainder obtained is ?

- A. 4
- B. 5
- C. 3
- D. 15

Answer: a



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135. When $(32^{32})^{32}$ is divided by 9, the remainder obtained is ?

- A. 4

B. 7

C. 2

D. 1

Answer: a



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136. $(32^{34})^{35}$ divided by 7, the remainder obtained is ?

A. 5

B. 4

C. 6

D. 2

Answer: d



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137. When $333^{555} + 555^{333}$ is divided by 8, the remainder obtained is ?

A. 0

B. 2

C. 4

D. 5

Answer: a



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138. $(97^{10} - 1024)$ is completely divisible by the number ?

A. 12

B. 13

C. 11

D. 17

Answer: c



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139. If $(x - 2)$ is a factor of $(x^2 + 3qx - 2q)$, then the value of q ?

A. 2

B. -2

C. -1

D. 1

Answer: c



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140. For what value of K , $(x - 1)$ is a factor of $(x^3 - K)$.

A. -1

B. 1

C. 8

D. -8

Answer: b



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141. $x^{100} + 2x^{99} + k$, is divisible by $(x + 1)$, the value of k ?

A. 1

B. -3

C. 2

D. -2

Answer: a



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142. When $(x-a)$ is a factor of $(x^3 - 3x^2a + 2a^2x + p)$ then find the value of p is:

A. 0

B. 2

C. 1

D. 4

Answer: a



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143. If $(x + 2)$ and $(x - 1)$ are factors of $(x^3 + 10x^2 + mx + n)$ then

A. $m = 5, n = -3$

B. $m = 17, n = -8$

C. $m = 7, n = -18$

D. $m = 23, n = -19$

Answer: c



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144. If $(x^{11} + 1)$ is divided by $(x + 1)$, then the remainder is :

A. 2

B. 0

C. 11

D. 12

Answer: b



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145. If $(2x^3 + 5x^2 - 4x - 6)$ is divided by $(2x + 1)$, then the remainder obtained is ?

A. $-\frac{13}{3}$

B. 3

C. -3

D. 6

Answer: c



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146. When $x^3 + 5x^2 + 10k$ is divided by $(x^2 + 2)$ the remainder obtained is $-2x$, then the value of k is

A. -2

B. -1

C. 1

D. 2

Answer: c

147. If $(67^{67} + 67)$ is divided by 68, the remainder is:

- A. 1
- B. 67
- C. 63
- D. 66

Answer: d

148. When $\underline{1} + \underline{2} + \underline{3} + \dots + \underline{100000}$ is divided by 8 then the remainder will be?

- A. 2

B. 3

C. 1

D. 4

Answer: c



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149. When

$$\underline{1} + \underline{2} + \underline{3} + \dots + \underline{100000}$$

is

divided by 12 then the remainder will be?

A. 9

B. 8

C. 7

D. 6

Answer: a



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150. When $8483^{115} + 12$ is divided by 84, the remainder will be?

A. 3

B. 5

C. 11

D. 2

Answer: c



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151. When number $10^1 + 10^2 + 10^3 + 10^4 + \dots + 10^{11}$ is divided by 6, the remainder will be?

A. 4

B. 2

C. 5

D. 1

Answer: b



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152. The sum of $4 + 44 + 444 + \dots$ up to 100 terms.

A. $\frac{4}{9} \left[\frac{10(10^{100} - 1)}{9} - 100 \right]$

B. $\frac{4}{9} \left[\frac{10(10^{100} - 1)}{9} - 1 \right]$

C. $\frac{4}{81} \left[\frac{10(10^{100} - 1)}{9} - 1 \right]$

D. $\frac{2}{81} \left[\frac{10(10^{100} - 1)}{9} - 100 \right]$

Answer: a



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153. When $252^{126} + 244^{152}$ is divided by 10, the remainder will be?

A. 8

B. 6

C. 0

D. 3

Answer: c



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154. For any integral value of n , $3^2n + 9n + 5$ when divided by 3 will leave the remainder?

A. 1

B. 2

C. 0

D. 5

Answer: b



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155. Find the remainder when 2^{89} is divided by 89?

A. 1

B. 2

C. 87

D. 88

Answer: b



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156. Find the remainder when 3^{32} is divided by 50.

A. 22

B. 41

C. 63

D. 88

Answer: b



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157. When $(10^{10} + 10^{100} + 10^{1000} + \dots + 10^{10000000000})$ is divided by 7, then the remainder is?

A. 1

B. 5

C. 2

D. 3

Answer: b



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158. When $(9^8 + 1)$ is divided by 8, the remainder will be?

A. a)3

B. b)2

C. c)1

D. d)4

Answer: b



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159. When $(7^{19} + 2)$ is divided by 6 then remainder will be?

A. 5

B. 3

C. 2

D. 1

Answer: b



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160. When $(43^{101} + 23^{101})$ is divided by 66, then the remainder will be?

A. 1

B. 2

C. 3

D. 0

Answer: d



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161. When $(3)^{1989}$ is divided by 7, then the remainder will be?

A. 4

B. 6

C. 5

D. 3

Answer: b



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162. When $(25)^{26}$ is divided by 24, then the remainder will be?

A. a)23

B. b)4

C. c)1

D. d)3

Answer: c



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163. What is the remainder when $9^1 + 9^2 + 9^3 + \dots + 9^8$ is divided by 6?

A. 3

B. 2

C. 0

D. 5

Answer: c



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164. What is the remainder when $1044 \times 1047 \times 1050 \times 1053$ is divided by 33?

A. 3

B. 27

C. 30

D. 18

Answer: c



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165. Find the volume of the following expression.

$1 - 2 - 3 + 2 - 3 - 4 + \dots + 100$ terms

A. -626

B. -622

C. -624

D. -628

Answer: a



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166. Find the number of terms in between 300 and 600, which are divisible by 4 ?

A. 72

B. 74

C. 80

D. 76

Answer: b



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167. Find the value of $25 \left(\frac{1}{3} + \frac{1}{9} + \frac{1}{27} + \dots \dots \dots + \infty \right)$

A. 5

B. 25

C. 125

D. $\sqrt{5}$

Answer: a



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168. Find the sum of n terms of the following expression.

$$8 + 88 + 888 + \dots ?$$

A. $\frac{8(10^n - 9^n)}{81}$

B. $\frac{8(10^{n+1} - 10 - 9n)}{81}$

C. $8(10^{n-1} - 10)$

D. $8(10^{n+1} - 10)$

Answer: b



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169. A ball is dropped from a height 500 metre. every time ball is bounced back up to the height $\frac{4}{5}$ th of previous height, till the ball stopped, how much distance is covered by the ball ?

A. 4500 m

B. 4000 m

C. 4800 m

D. 5000 m

Answer: a



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170. A ball is dropped from a height 600 metre. Every time the ball is bounced up to the height $\frac{2}{3}$ th of the previous height, till the ball stopped, how much distance is covered by ball ?

A. 3500 m

B. 3000 m

C. 2500 m

D. 4000 m

Answer: b



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171. A side of a square is 16 cm. A new square is formed by joining the midpoints of sides, again a new square is formed by joining the midpoints of the new square and this process goes on till infinity. Find the total area of such square formed ?

A. $256cm^2$

B. $128cm^2$

C. $512cm^2$

D. $1024cm^2$

Answer: c



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172. The sides of a right angled triangle are 6,8 and 10 cm. A new triangle is formed by joining the mid-points of this triangle, again a new triangle is formed by joining the mid points of the new triangle and this process goes on till infinity. Find the total area of such triangle formed.

A. a) $64cm^2$

B. b) $128cm^2$

C. c) $32cm^2$

D. d) $16cm^2$

Answer: c



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173. Find the sum of n terms of the following series.

$$11 + 103 + 1005 + \dots$$

A. $\frac{10}{9}(10^n + 1) + n^2$

B. $\frac{10}{9}(10^n - 1) + n^2$

C. $\frac{10}{9}(10^n + 1) + n$

D. $\frac{10}{9}(10^n - 1) + n$

Answer: b



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174. A man gets ₹60 in first week. and after that every week, he gets ₹3 more than previous week. then how much money will he get on 20th week?

A. ₹1770

B. ₹1620

C. ₹1890

D. ₹1790

Answer: a



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175. A boy charges rupee 1 for first day, rupee 2 for second day and rupee 4 for third and so on. If boy starts work on 1st feb and completed it on 20th feb, then how much amount he get ?

A. 2^{20}

B. $2^{20} - 1$

C. $2^{19} - 1$

D. 2^{19}

Answer: b



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176. A new triangle is formed by joining the mid-points of an equilateral triangle. Again a new triangle is formed by using the mid-points of this triangle, this process goes on till infinity. If the side of the big equilateral triangle is 24 units, find the total perimeter of such triangle formed ?

A. 288

B. 72

C. 36

D. 144

Answer: d



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177. Solve the followings :

$$\left[\left(x + \frac{1}{y} \right)^a \left(x - \frac{1}{y} \right)^b \right] \div \left[\left(y + \frac{1}{x} \right)^a \left(y - \frac{1}{x} \right)^b \right] \text{ is equal to :}$$

A. $\left(\frac{x}{y}\right)^{a+b}$

B. $\left(\frac{x}{y}\right)^{a-b}$

C. $\left(\frac{y}{x}\right)^{a+b}$

D. $\left(\frac{y}{x}\right)^{a-b}$

Answer: a



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178. If $x^{x^{\frac{3}{2}}} = \left(x^{\frac{3}{2}}\right)^x$, the value of x :

A. a) $\frac{4}{9}$

B. b) $\frac{9}{4}$

C. c) $\frac{3}{2}$

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

Answer: b



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179. If $x^a = yb = z^c$ and $y^2 = zx$, then $\frac{1}{a} + \frac{1}{c}$ is equal to -

A. $\frac{1}{b} + \frac{1}{c} = \frac{2}{a}$

B. $\frac{1}{a} + \frac{1}{b} = \frac{1}{c}$

C. $\frac{1}{a} + \frac{1}{c} = \frac{2}{b}$

D. $\frac{1}{c} + \frac{1}{a} = \frac{2}{b}$

Answer: c



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180. The value of

$$\frac{1}{1 + x^{b-a} + x^{c-a}} + \frac{1}{1 + x^{c-b} + x^{a-b}} + \frac{1}{1 + x^{a-c} + x^{b-c}} \text{ is-}$$

A. 1

B. 2

C. 3

D. 4

Answer: a



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181. If $2^x = 4^y = 8^z$ and $xyz = 288$, the value of $\frac{1}{2x} + \frac{1}{4y} + \frac{1}{8z}$ is

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

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

C. $\frac{1}{15}$

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

Answer: a



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182. If $2^x = 3^y = 6^{-z}$, then the value of $\frac{1}{x} + \frac{1}{y} + \frac{1}{z}$ is

A. -1

B. 0

C. 1

D. 2

Answer: b



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183. The value of $\frac{4^n \times 20^{m-1} \times 12^{m-n} \times 15^{m+n-2}}{16^m \times 5^{2m+n} \times 9^{m-1}}$ is-

A. $\frac{1}{50}$

B. $\frac{1}{500}$

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

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

Answer: b



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184. Solve the followings :

The value of the expression

$$\frac{(0.3)^{1/3} \cdot \left(\frac{1}{27}\right)^{1/4} \cdot (9)^{1/6} \cdot (0.81)^{2/3}}{(0.9)^{2/3} \cdot (3)^{-1/2} \cdot \left(\frac{1}{3}\right)^{-2} \cdot (243)^{-1/4}} \text{ is :}$$

A. 3

B. 0.03

C. 0.3

D. 30

Answer: c



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185. Which of the following is correct ?

$$A = \sqrt{2}, B = \sqrt[3]{3}, C = \sqrt[4]{4}$$

A. $A > B = C$

B. $B > A > C$

C. $B > A = C$

D. $C > A = B$

Answer: c



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186. Arrange the following in descending order

$\sqrt{3} - \sqrt{2}, \sqrt{4} - \sqrt{3}, \sqrt{5} - \sqrt{4}, \sqrt{2} - 1.$

A. $(\sqrt{2} - \sqrt{1}) > (\sqrt{3} - \sqrt{2}) > (\sqrt{4} - \sqrt{3}) > (\sqrt{5} - 4)$

B. $(\sqrt{3} - \sqrt{2}) > (\sqrt{2} - \sqrt{1}) > (\sqrt{4} - \sqrt{3}) > (\sqrt{5} - 4)$

C. $(\sqrt{5} - \sqrt{4}) > (\sqrt{4} - \sqrt{3}) > (\sqrt{3} - \sqrt{2}) > (\sqrt{3} - 2)$

D. None of these

Answer: a

187. Arrange in ascending order -

$$\sqrt{8} + \sqrt{5}, \sqrt{6} + \sqrt{7}, \sqrt{9} + \sqrt{4}, \sqrt{11} + \sqrt{2}, \sqrt{10} + \sqrt{3}$$

A. $\sqrt{8} + \sqrt{5} > \sqrt{6} + \sqrt{7} > \sqrt{9} + \sqrt{4} > \sqrt{11} + \sqrt{2} > \sqrt{10} + \sqrt{3}$

B. $\sqrt{11} + \sqrt{2} > \sqrt{10} + \sqrt{3} > \sqrt{9} + \sqrt{4} > \sqrt{8} + \sqrt{5} > \sqrt{6} + \sqrt{7}$

C. $\sqrt{11} + \sqrt{2} > \sqrt{10} + \sqrt{3} > \sqrt{9} + \sqrt{4} > \sqrt{8} + \sqrt{5} > \sqrt{6} + \sqrt{7}$

D. None of these

Answer: c

188. Arrange in descending order -

$$\sqrt{8} - \sqrt{5}, \sqrt{6} - \sqrt{7}, \sqrt{9} - \sqrt{4}, \sqrt{11} - \sqrt{2}, \sqrt{10} - \sqrt{3}$$

A. $\sqrt{11} - \sqrt{2} > \sqrt{10} - \sqrt{3} > \sqrt{9} - \sqrt{4} > \sqrt{8} - \sqrt{5} > \sqrt{6} - \sqrt{7}$

B.

C. $\sqrt{10} - \sqrt{3} > \sqrt{8} - \sqrt{5} > \sqrt{11} - \sqrt{12} > \sqrt{9} - \sqrt{4} > \sqrt{6} - \sqrt{7}$

D. None of these

Answer: a



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189. Arrange in descending order -

$$2^{350}, 5^{200}, 3^{300}, 4^{250}$$

A. $4^{250} > 3^{300} > 5^{200} > 2^{350}$

B. $2^{350} > 5^{200} > 3^{300} > 4^{250}$

C. $3^{300} > 5^{200} > 4^{250} > 2^{350}$

D. None of these

Answer: a



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190. Arrange in descending order -

$$\sqrt[3]{3}, \sqrt[4]{4}, \sqrt[6]{6}, \sqrt[12]{12}$$

A. $4^{\frac{1}{4}} > 3^{\frac{1}{3}} > 12^{\frac{1}{12}} > 6^{\frac{1}{6}}$

B. $3^{\frac{1}{3}} > 4^{\frac{1}{4}} > 6^{\frac{1}{6}} > 12^{\frac{1}{12}}$

C. $4^{\frac{1}{4}} > 3^{\frac{1}{3}} > 12^{\frac{1}{12}} > 6^{\frac{1}{6}}$

D. None of these

Answer: b



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191. If $x = \frac{1}{5 + 2\sqrt{6}}$, the value of $\frac{1}{x}$ is?

A. $5 + 2\sqrt{6}$

B. $5 - 2\sqrt{6}$

C. $3 + 2\sqrt{3}$

D. None of these

Answer: b



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192. The value of $\frac{\sqrt{5} - 2}{\sqrt{5} + 2}$ is :

A. $9 - 4\sqrt{5}$

B. $9 + 4\sqrt{5}$

C. $5 + 2\sqrt{2}$

D. None of these

Answer: a



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193. $y = \sqrt{7 + \sqrt{7 + \sqrt{7 + \dots \infty}}}$, then which of the following is true?

A. $y = 3$

B. $3 < y < 3.5$

C. $y = 7$

D. $y > 4$

Answer: b



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194. $\sqrt{12 + \sqrt{12 + \sqrt{12 + \dots}}}$ is equal to

A. a) 3

B. b) 12

C. c) 4

D. d)None of these

Answer: c



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195. If $y = \sqrt{9 - \sqrt{9 - \sqrt{9 \dots \infty}}}$, then which of the following is true ?

A. a) $y = 3$

B. b) $2.5 < y < 3$

C. c) $y = 9$

D. d) $y > 4$

Answer: b



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196. If $y = \sqrt{42 - \sqrt{42 - \sqrt{42 \dots \infty}}}$ then $y = ?$

A.7

B. 6

C. 5

D. 8

Answer: b



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197. $y = \sqrt{5\sqrt{5\sqrt{5\dots\infty}}}$, then value of y is?

A. 4

$$\mathbf{B} \cdot 2^{\frac{n-1}{2n}}$$

C. 5

D. None of these

Answer: c



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198. If $y = \sqrt{a\sqrt{a\sqrt{a\sqrt{a}}}}$, Then value of y?

A. $a^{\frac{1}{16}}$

B. $a^{\frac{15}{16}}$

C. $a^{\frac{31}{32}}$

D. $a^{\frac{15}{16}}$

Answer: b



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199. The value of

$$\left[\sqrt[12]{\left(\sqrt[9]{\left(\sqrt[3]{5^3} \right)^0} \right)} \right]$$

$$\sqrt[12]{\left(\sqrt[9]{\left(\sqrt[3]{5^3} \right)^0} \right)}$$

is-

A. $5^{\frac{99}{4}}$

B. $5^{\frac{100}{3}}$

C. $2^{\frac{99}{4}}$

D. $3^{\frac{99}{4}}$

Answer: a

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200. The value of

$$\sqrt{2}\sqrt[3]{4}\sqrt{2}\sqrt[3]{4}\sqrt{2}\sqrt[3]{4}$$

- A. 4
- B. 2
- C. $\sqrt{2}$
- D. $2\sqrt{2}$

Answer: b



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201. Square root of $13 - 4\sqrt{3}$ is ?

A. $\sqrt{12} + 1$

B. $2\sqrt{3} + 7$

C. $\sqrt{12} - 1$

D. $2\sqrt{3} - 7$

Answer: c



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202. Square root of $139 - 80\sqrt{3}$ is ?

A. $5\sqrt{3} + 8$

B. $5\sqrt{3} - 8$

C. $5\sqrt{3} + 12$

D. $5\sqrt{3} - 12$

Answer: b



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203. It is given that $(2^{32} + 1)$ is completely divisible by a number. That number will certainly divide which of the following numbers?

A. a) $2^{96} + 1$

B. b) 7×2^{33}

C. c) $2^{16} - 1$

D. d) $2^{16} + 1$

Answer: a



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204. If $x = \frac{\sqrt{3}}{2}$, then value of $\frac{\sqrt{1+x}}{1+\sqrt{1+x}} + \frac{\sqrt{1-x}}{1-\sqrt{1-x}}$ is?

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

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

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

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

Answer: b



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205. The smallest value by which 63520 is subtracted to make it a perfect square?

A. 16

B. 20

C. 24

D. 30

Answer: a

206. The value of $\left[\sqrt[3]{\sqrt[6]{5^9}} \right]^4 \sqrt[3]{\sqrt[6]{5^9}}$ is-

A. 5^2

B. 5^4

C. 5^8

D. 5^{12}

Answer: b

207. The simplification of $\left(\frac{2 + \sqrt{3}}{2 - \sqrt{3}} + \frac{2 - \sqrt{3}}{2 + \sqrt{3}} + \frac{\sqrt{3} - 1}{\sqrt{3} + 1} \right)$ is-

A. $2 - \sqrt{3}$

B. $2 + \sqrt{3}$

C. $16 - \sqrt{3}$

D. $40 - \sqrt{3}$

Answer: c



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208. The value of $\sqrt{\frac{(\sqrt{12} - \sqrt{8})(\sqrt{3} + \sqrt{2})}{5 + \sqrt{24}}}$ is-

A. $\sqrt{6} - \sqrt{2}$

B. $\sqrt{6} + \sqrt{2}$

C. $\sqrt{6} - 2$

D. $2 - \sqrt{6}$

Answer: c



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209. $\frac{\sqrt{5}}{\sqrt{3} + \sqrt{2}} - \frac{3\sqrt{3}}{\sqrt{5} + \sqrt{2}} + \frac{2\sqrt{2}}{\sqrt{5} + \sqrt{3}}$ is equal to-

A. 0

B. $2\sqrt{15}$

C. $2\sqrt{10}$

D. $2\sqrt{6}$

Answer: a



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210.

$$\frac{1}{\sqrt{3} + \sqrt{4}} + \frac{1}{\sqrt{4} + \sqrt{5}} + \frac{1}{\sqrt{5} + \sqrt{6}} + \frac{1}{\sqrt{6} + \sqrt{7}} + \frac{1}{\sqrt{7} + \sqrt{8}} + \frac{1}{\sqrt{8} + \sqrt{9}}$$

is equal to?

A. a) $\sqrt{3}$

B. b) $3\sqrt{3}$

C. c) $3 - \sqrt{3}$

D. d) $5 - \sqrt{3}$

Answer: c



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211. Simplify

$$\frac{1}{\sqrt{100} - \sqrt{99}} - \frac{1}{\sqrt{99} - \sqrt{98}} + \frac{1}{\sqrt{98} - \sqrt{97}} - \frac{1}{\sqrt{97} - \sqrt{96}} + \dots +$$

A. 10

B. 9

C. 13

D. 11

Answer: d



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212. $\left\{(-2)^{(-2)}\right\}^{(-2)}$ is equal to :

A. 16

B. 8

C. -8

D. -1

Answer: a



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213. $\frac{3\sqrt{2}}{\sqrt{6} + \sqrt{3}} - \frac{2\sqrt{6}}{\sqrt{3} + 1} + \frac{2\sqrt{3}}{\sqrt{6} + 2}$ is equal to-

A. 3

B. 2

C. 0

D. $\sqrt{3}$

Answer: c



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214. If $x = 1 + \sqrt{2} + \sqrt{3}$, then the value of $\left(x + \frac{1}{x-1}\right)$ is

A. a) $1 + 2\sqrt{3}$

B. b) $2 + \sqrt{3}$

C. c) $3 + \sqrt{2}$

D. d) $2\sqrt{3} - 1$

Answer: a



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215. If a, b are rational numbers and

$a\sqrt{b}\sqrt{3} = \sqrt{98} + \sqrt{108} - \sqrt{48} - \sqrt{72}$, then the values of a and b are?

A. 1,2

B. 1,3

C. 2,1

D. 2,3

Answer: a



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216. If $\sqrt[3]{a} = \sqrt[3]{26} + \sqrt[3]{7} + \sqrt[3]{63}$, then-

A. alt 729 but agt 216

B. alt 216

C. agt 729

D. agt 729

Answer: a



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217. The value of $\sqrt{2^3 \sqrt{4 \sqrt{2^3 \sqrt{4 \dots}}}}$ is-

A. 2

B. 2^2

C. 2^4

D. 2^5

Answer: a



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218. If $(3x - 2y) : (2x + 3y) = 5 : 6$ then the value of $\left(\frac{\sqrt[3]{x} + \sqrt[3]{y}}{\sqrt[3]{x} - \sqrt[3]{y}} \right)$ is-

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

B. 5

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

D. 25

Answer: d



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219. If $11\sqrt{n} = \sqrt{112} + \sqrt{343}$, then value of n is?

A. 3

B. 11

C. 13

D.7

Answer: d



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220. If $\sqrt{x + 2\sqrt{x + 2\sqrt{x + 2\sqrt{x + 2} \dots}}} = x$ Then value of x?

A. 4

B. 3

C. 2

D. 1

Answer: b



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221. Which is the correct statement :-

A. $\sqrt{2} + \sqrt{5} = \sqrt{7}$

B. $\sqrt{2} + \sqrt{5} \leq \sqrt{7}$

C. $\sqrt{2} + \sqrt{5} < \sqrt{7}$

D. $\sqrt{2} + \sqrt{5} > \sqrt{7}$

Answer: d



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222. Value of $\sqrt{7\sqrt{7\sqrt{7\sqrt{7}}\dots}}$

A. 7

B. 3

C. 4

D. 2

Answer: a



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223. Find the value of $\sqrt{12 - \sqrt{12 - \sqrt{12 - \dots}}}$

A. 3

B. 4

C. -2

D. -3

Answer: a



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224. $\sqrt[4]{\frac{0.00002025}{0.00005329}}$ is equal to

A. $\sqrt{\frac{45}{73}}$

B. $\sqrt{\frac{43}{75}}$

C. $\sqrt{\frac{34}{57}}$

D. $\sqrt{\frac{73}{45}}$

Answer: a



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225. The value of $\sqrt{21 + \sqrt[3]{59 + \sqrt{16 + \sqrt[3]{722 + \sqrt{49}}}}}$ is-

A. 4

B. 5

C. 6

D. 8

Answer: b



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226. $3\sqrt[3]{32} - 5\sqrt[3]{4} + \sqrt[3]{500}$ is equal to

A. $4\sqrt[3]{6}$

B. $3\sqrt{24}$

C. $6\sqrt[3]{4}$

D. 916

Answer: c



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227. $\sqrt[3]{\frac{72.9}{0.4096}}$ is equal to

A. 0.5625

B. 5.625

C. 182

D. 13.6

Answer: b



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228. The value of $\frac{\sqrt{80} - \sqrt{112}}{\sqrt{45} - \sqrt{63}}$ is :

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

B. $1\frac{3}{4}$

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

D. $1\frac{7}{9}$

Answer: c



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229. $(\sqrt{72} - \sqrt{18}) + \sqrt{12}$ is equal to :

A. $\sqrt{6}$

B. $\sqrt{3}/2$

C. $\sqrt{2}/3$

D. $\sqrt{6}/2$

Answer: d



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230. $\sqrt{104.04} + \sqrt{1.0404} + \sqrt{0.010404}$ is equal to

A. 0.306

B. 0.0306

C. 11.122

D. 11.322

Answer: d



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231. Find the value of

$$\sqrt[3]{175.616} + \sqrt[3]{0.175616} + \sqrt[3]{0.000175616}$$

A. 0.168

B. 62.16

C. 6.216

D. 6.116

Answer: c

232. If $5\sqrt{x} + 12\sqrt{x} = 13\sqrt{x}$, the value of x is

A. $\frac{25}{4}$

B. 4

C. 9

D. 16

Answer: b

233. Find the value of $\sqrt{32} - \sqrt{128} + \sqrt{50}$ upto three places of decimal
(correct value)

A. 1.732

B. 1.141

C. 1.414

D. 1.441

Answer: c



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234. The value of $\sqrt[3]{1372} \times \sqrt[3]{1458} \div \sqrt[3]{343}$ is equal to

A. a)18

B. c)15

C. c)13

D. d)12

Answer: a



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235. If $\sqrt{15} = 3.88$, the value of $\sqrt{\frac{5}{3}}$ is

A. $1.29\bar{3}$

B. 1.2934

C. 1.29

D. 1.295

Answer: a



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236. By assuming $\sqrt{13} = 3.605$ (approximate) $\sqrt{130} = 11.40$

(approximate), find the value of $\sqrt{1.3} + \sqrt{1300} + \sqrt{0.013}$

A. 36.164

B. 37.304

C. 36.304

D. 37.164

Answer: b



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237. How much greater $5\sqrt{7} - 2\sqrt{5}$ from $3\sqrt{7} - 4\sqrt{5}$?

A. $5(\sqrt{7} + \sqrt{5})$

B. $\sqrt{7} + \sqrt{5}$

C. $2(\sqrt{7} + \sqrt{5})$

D. $7(\sqrt{2} + \sqrt{5})$

Answer: c



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238. Simplify $\frac{\left(\frac{3}{2+\sqrt{3}} - \frac{2}{2-\sqrt{3}}\right)}{2-5\sqrt{3}}$

A. $\frac{1}{2} - 5\sqrt{3}$

B. 1

C. $2 - 5\sqrt{3}$

D. 0

Answer: b



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239. The value of $\sqrt{11 + 2\sqrt{30}} - \frac{1}{\sqrt{11 + 2\sqrt{30}}}$ is

A. $2\sqrt{5}$

B. $2\sqrt{6}$

C. $1 + \sqrt{6}$

D. $1 + \sqrt{5}$

Answer: a



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240. If $x = 8 + 2\sqrt{15}$, find $\sqrt{x} + \frac{1}{\sqrt{x}}$

A. $2\sqrt{3}$

B. $2\sqrt{5}$

C. $\frac{3}{2}\sqrt{5} + \frac{\sqrt{3}}{2}$

D. $\frac{\sqrt{5}}{2} + \frac{\sqrt{3}}{2}\sqrt{3}$

Answer: c



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241. Which no. is the greatest number from the following:

$\sqrt[3]{4}$, $\sqrt[6]{15}$, $\sqrt[4]{6}$ and $\sqrt[12]{245}$

A. $\sqrt[3]{4}$

B. $\sqrt[4]{6}$

C. $\sqrt[6]{15}$

D. $\sqrt[12]{245}$

Answer: a



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242. $\left(\frac{1 + \sqrt{2}}{\sqrt{5} + \sqrt{3}} + \frac{1 - \sqrt{2}}{\sqrt{5} - \sqrt{3}} \right)$ Simplify

A. $\sqrt{5} + \sqrt{6}$

B. $2\sqrt{5} + \sqrt{6}$

C. $\sqrt{5} - \sqrt{6}$

D. $2\sqrt{5} - 3\sqrt{6}$

Answer: c



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243. The value of $\left(\frac{\sqrt{5} + \sqrt{3}}{\sqrt{5} - \sqrt{3}}\right)^2 + \left(\frac{\sqrt{5} - \sqrt{3}}{\sqrt{5} + \sqrt{3}}\right)^2$ is equal to

A. 64

B. 62

C. 66

D. 68

Answer: b



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244. The smallest no. in the following is $(0.5)^2$, $\sqrt{0.49}$, $\sqrt[3]{0.008}$, 0.23

A. $(0.5)^2$

B. $\sqrt{0.49}$

C. $\sqrt[3]{0.008}$

D. 0.23

Answer: c



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245. Arrange the following no. in ascending order

$(2.89)^{0.5}$, $2 - (0.5)^2$, $\sqrt{3}$ and $\sqrt[3]{0.008}$ we get

A. $2 - (0.5)^2$, $\sqrt{3}$, $\sqrt[3]{0.008}$, $(2.89)^{0.5}$

B. $\sqrt[3]{0.008}$, $(2.89)^{0.5}$, $\sqrt{3}$, $2 - (0.5)^2$,

C. $\sqrt[3]{0.008}$, $\sqrt{3}$, $(2.89)^{0.5}$, $2 - (0.5)^2$,

D. $\sqrt{3}$, $\sqrt[3]{0.008}$, $2 - (0.5)^2$, $(2.89)^{0.5}$

Answer: b



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246. Find the value of $\frac{1}{\sqrt{9} - \sqrt{4}}$.

A. 0

B. 1

C. 2

D. 3

Answer: a



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247. The simplification of

$$\frac{3\sqrt{2}}{\sqrt{3} + \sqrt{6}} - \frac{4\sqrt{3}}{\sqrt{6} + \sqrt{2}} + \frac{\sqrt{6}}{\sqrt{2} + \sqrt{3}} \text{ is}$$

A. a) $\sqrt{6}$

B. b) $\sqrt{3}$

C. c) $\sqrt{2}$

D. d) $6\sqrt{2} - 2\sqrt{6}$

Answer: d

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248. The square root of $(3 - \sqrt{5})$ is

A. $(\sqrt{3} - 5^{\frac{1}{4}})$

B. $\frac{1}{2}(\sqrt{5} - \sqrt{3})$

C. $\frac{1}{2}(\sqrt{5} - 1)$

D. $\frac{1}{\sqrt{2}}(\sqrt{5} - 1)$

Answer: d

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249. If $x = \sqrt{-\sqrt{3} + \sqrt{3 + 8\sqrt{7 + 4\sqrt{3}}}}$ where $x > 0$, then the value of x is equal to:

यदि $x = \sqrt{-\sqrt{3} + \sqrt{3 + 8\sqrt{7 + 4\sqrt{3}}}}$ तो x का मान ज्ञात करें: जहाँ $x > 0$

A. 1

B. 2

C. 3

D. 8

Answer: b



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250. The value of $(3 + 2\sqrt{2})^{-3} + (3 - 2\sqrt{2})^{-3}$ is equal to

A. 189

B. 180

C. 108

D. 198

Answer: d



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251. Find the value of $\sqrt{8} + 2\sqrt{32} - 3\sqrt{128} + 4\sqrt{50}$ if $\sqrt{2} = 1.414$ is

A. 8.484

B. 8.526

C. 8.426

D. 8.876

Answer: a



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252. The simplification of

$$\left[\frac{1}{\sqrt{2} + \sqrt{3} - \sqrt{5}} + \frac{1}{\sqrt{2} - \sqrt{3} - \sqrt{5}} \right] \text{ is equal to}$$

A. 1

B. $\sqrt{2}$

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

D. 0

Answer: c



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253. If $a = \sqrt{8} - \sqrt{7}$, $b = \sqrt{7} - \sqrt{6}$ and $c = \sqrt{6} - \sqrt{5}$ then which answer is right?

A. a) $a > b > c$

B. b) $a < b < c$

C. c) $b > a > c$

D. d) $a > c > b$

Answer: b



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254. If $a = \frac{\sqrt{5} + 1}{\sqrt{5} - 1}$ and $b = \frac{\sqrt{5} - 1}{\sqrt{5} + 1}$ then the value of $\frac{a^2 + ab + b^2}{a^2 - ab + b^2}$ is

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

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

C. $\frac{3}{5}$

D. $\frac{5}{3}$

Answer: b



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255.

$$\frac{1}{\sqrt{3} + \sqrt{4}} + \frac{1}{\sqrt{4} + \sqrt{5}} + \frac{1}{\sqrt{5} + \sqrt{6}} + \frac{1}{\sqrt{6} + \sqrt{7}} + \frac{1}{\sqrt{7} + \sqrt{8}} + \frac{1}{\sqrt{8} + \sqrt{9}}$$

is equal to?

A. $\sqrt{3}$

B. $3\sqrt{3}$

C. $(3 - \sqrt{3})$

D. $5 - \sqrt{3}$

Answer: c



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256. If $\sqrt{32} + \sqrt{72} = 14.14$ then $\sqrt{18} + \sqrt{50} + \sqrt{98} + \sqrt{1250} = ?$

A. 45.45

B. 56.56

C. 67.67

D. 78.78

Answer: b



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257. $\frac{1}{30} + \frac{1}{42} + \frac{1}{56} + \frac{1}{72} + \frac{1}{90} + \frac{1}{110} = ?$

A. $\frac{2}{27}$

B. $\frac{7}{9}$

C. $\frac{5}{27}$

D. $\frac{6}{55}$

Answer: d



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258. $\left(2 - \frac{1}{3}\right)\left(2 - \frac{3}{5}\right)\left(2 - \frac{5}{7}\right) \dots \left(2 - \frac{997}{999}\right) = ?$

A. $\frac{5}{999}$

B. $\frac{1001}{999}$

C. $\frac{1001}{3}$

D. None of these

Answer: c



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259. Arrange $\frac{4}{5}, \frac{7}{8}, \frac{6}{7}, \frac{5}{6}$ in the ascending order :

A. $\frac{4}{5}, \frac{7}{8}, \frac{6}{7}, \frac{5}{6}$

B. $\frac{5}{6}, \frac{6}{7}, \frac{7}{8}, \frac{4}{5}$

C. $\frac{4}{5}, \frac{5}{6}, \frac{6}{7}, \frac{7}{8}$

D. $\frac{7}{8}, \frac{6}{7}, \frac{5}{6}, \frac{4}{5}$

Answer: c



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260. Arrange $\frac{3}{5}, \frac{7}{9}, \frac{11}{13}$ in descending order.

A. $\frac{3}{5}, \frac{7}{9}, \frac{11}{13}$

B. $\frac{7}{9}, \frac{3}{5}, \frac{11}{13}$

C. $\frac{11}{13}, \frac{7}{9}, \frac{3}{5}$

D. $\frac{11}{13}, \frac{3}{5}, \frac{7}{9}$

Answer: c



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261. Which of the following order of the fractions is in descending form?

A. $\frac{5}{9}, \frac{8}{15}, \frac{11}{17}, \frac{7}{11}$

B. $\frac{5}{9}, \frac{7}{11}, \frac{8}{15}, \frac{11}{17}$

C. $\frac{11}{17}, \frac{7}{11}, \frac{5}{9}, \frac{8}{15}$

D. $\frac{11}{17}, \frac{7}{11}, \frac{8}{15}, \frac{5}{9}$

Answer: c



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262. The simplification of $(0.\bar{1})^2 \left\{ 1 - 9(0.1\bar{6})^2 \right\}$ is

A. $\frac{-1}{162}$

B. $\frac{1}{108}$

C. $\frac{7696}{10^6}$

D. $\frac{1}{109}$

Answer: b



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263.

$$\left[\left(1 - \frac{1}{3}\right) \left(1 - \frac{1}{4}\right) \left(1 - \frac{1}{5}\right) \left(1 - \frac{1}{6}\right) \dots \left(1 - \frac{1}{99}\right) \left(1 - \frac{1}{100}\right) \right] = ?$$

A. $\frac{2}{99}$

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

C. $\frac{1}{50}$

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

Answer: c

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264. $(1-1/3)(1-1/4)(1-1/5)...(1-1/n)$ equals:

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

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

C. $\frac{2(n-1)}{n}$

D. $\frac{2}{(n)(n-1)}$

Answer: b

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265. If $1^2 + 2^2 + 3^2 + \dots + x^2 = \frac{(x)(x+1)(2x+1)}{6}$, then the value of $1^2 + 3^2 + 5^2 + \dots + 19^2$ is equal to:

A. a)1330

B. b)2100

C. c)1485

D. d)2500

Answer: a



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266.

The

value

$$\frac{5}{2^2 \cdot 3^2} + \frac{7}{3^2 \cdot 4^2} + \frac{9}{4^2 \cdot 5^2} + \frac{11}{5^2 \cdot 6^2} + \frac{13}{6^2 \cdot 7^2} + \frac{15}{7^2 \cdot 8^2} + \frac{17}{8^2 \cdot 9^2} + \frac{19}{9^2 \cdot 10^2}$$

is equal to

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

B. $\frac{6}{25}$

C. $\frac{101}{100}$

D. 1

Answer: c



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267. Find the sum of

$$\frac{1}{9} + \frac{1}{6} + \frac{1}{12} + \frac{1}{20} + \frac{1}{30} + \frac{1}{42} + \frac{1}{56} + \frac{1}{72}$$

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

B. 0

C. $\frac{1}{9}$

D. $\frac{1}{2520}$

Answer: b



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268. $\frac{1}{3} + \frac{1}{15} + \frac{1}{35} + \frac{1}{63} + \frac{1}{99} + \frac{1}{143} = ?$

A. a) $\frac{6}{13}$

B. b) $\frac{5}{7}$

C. c) $\frac{6}{11}$

D. d) $\frac{11}{6}$

Answer: c



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269. Find the sum of first five terms in the sequence

$$\frac{1}{1 \times 4} + \frac{1}{4 \times 7} + \frac{1}{7 \times 10} + \dots$$

A. $\frac{1}{32}$

B. $\frac{7}{16}$

C. $\frac{5}{16}$

D. $\frac{1}{210}$

Answer: b



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270. The value of $\left(1 + \frac{1}{2}\right)\left(1 + \frac{1}{3}\right)\left(1 + \frac{1}{4}\right) \dots \left(1 + \frac{1}{120}\right)$ is

A. 30

B. 40.5

C. 60.5

D. $121/2$

Answer: a



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271. The value of $\frac{5.42 \times 5.42 + 5.42 \times 24}{32.71 \times 32.71 - 27.29 \times 27.29} \div \frac{6.54 \times 6.54 - 3.46 \times 3.46}{3.08 \times 5 + 3.08 \times 45}$ is equal to

A. 0.3

B. 0.4

C. 0.7

D. 2.5

Answer: b



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272. The value of $\left[\frac{1 \times 3 \times 9 + 2 \times 6 \times 18 + 3 \times 9 \times 27 + \dots}{1 \times 5 \times 25 + 2 \times 10 \times 50 + 3 \times 15 \times 75 + \dots} \right]^{1/3}$ is

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

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

C. $\frac{3}{5}$

D. $\frac{7}{9}$

Answer: a



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273. The simplification of $\frac{1.\bar{3} \times 1.\bar{3} \times 1.\bar{3} - 1}{1.\bar{3} \times 1.\bar{3} + 1.\bar{3} + 1}$ is

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

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

C. $\frac{37}{91}$

D. $\frac{27}{91}$

Answer: a



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274. $156.25 \div 25 \div 5 = ?$

A. 125

B. 1.25

C. 0.125

D. 12.5

Answer: c



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$$275.2100 \div ? \div 84 = 1$$

A. 28

B. 25

C. 24

D. 22

Answer: c



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$$276. \left(\frac{1.2.4 + 2.4.8 + 3.6.12 + \dots}{1.3.9 + 2.6.18 + 3.9.27 + \dots} \right)^{1/3} = ?$$

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

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

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

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

Answer: d



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277. $1 + \frac{1}{10} + \frac{2}{10^2} + \frac{2}{10^3} + \frac{2}{10^4} + \dots ?$

A. $1.\overline{12}$

B. 0.121

C. 1.21

D. $1.\overline{12}$

Answer: c



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278. Find the correct value upto 5 places of decimal of

$$1 - \frac{1}{20} + \frac{1}{20^2} - \frac{1}{20^3} + \dots$$

A. 1.05

B. 0.95238

C. 0.95239

D. 10.5

Answer: a



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279. If $47.2506 = 4A + \frac{7}{B} + 2C + \frac{5}{D} + 6E$ then value of $5A + 3B + 6C + D + 3E$ is

A. a)53.6003

B. b)53.603

C. c)153.6003

D. d)213.003

Answer: b



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280. $\left(1 - \frac{1}{2^2}\right)\left(1 - \frac{1}{3^2}\right) \dots \left(1 - \frac{1}{9^2}\right)\left(1 - \frac{1}{10^2}\right) = ?$

A. '5/12'

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

C. $\frac{11}{20}$

D. $\frac{7}{10}$

Answer: b



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281. $\left(1\frac{1}{2} + 11\frac{1}{2} + 111\frac{1}{2} + 1111\frac{1}{2}\right)$ is equal to

A. 1236

B. $1234\frac{1}{2}$

C. 618

D. 617

Answer: b



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282. The value of $(0.333 \dots \times 0.444 \dots)$ is

A. 0.148148 ...

B. 0.777 ...

C. 0.1212

D. 1.333

Answer: a



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283. $\frac{1}{20} + \frac{1}{30} + \frac{1}{42} + \frac{1}{56} + \frac{1}{72} + \frac{1}{90} + \frac{1}{110} + \frac{1}{132} = ?$

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

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

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

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

Answer: b



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284. Find the square root of $\frac{(0.064 - 0.008)(0.16 - 0.04)}{(0.16 + 0.08 + 0.04)(0.4 + 0.2)^3}$

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

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

C. 3

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

Answer: c



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285. The greatest number among 3^{50} , 4^{40} , 5^{30} , and 6^{20} is

A. 4^{40}

B. 5^{30}

C. 6^{20}

D. 3^{50}

Answer: a



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286. The number which can be written in the form of $n(n+1)(n+2)$, where n is a natural number is

A. 7

B. 5

C. 3

D. 6

Answer: a



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287. $1 + 2 + 3 + \dots + 49 + 50 + 49 + 48 + \dots + 3 + 2 + 1$ is equal to.

A. 1250

B. 2500

C. 2525

D. 5000

Answer: a



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288. Which sequence is in desending order:

A. $\frac{2}{3}, \frac{3}{5}, \frac{7}{9}, \frac{9}{11}, \frac{8}{9}$

B. $\frac{3}{5}, \frac{2}{3}, \frac{7}{9}, \frac{9}{11}, \frac{8}{9}$

C. $\frac{8}{9}, \frac{9}{11}, \frac{7}{9}, \frac{2}{3}, \frac{3}{5}$

D. $\frac{3}{5}, \frac{2}{3}, \frac{9}{11}, \frac{7}{9}, \frac{8}{9}$

Answer: c



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289. The value of $(0.\overline{3468} + .17\overline{32})$ is

A. $0.52\overline{01}$

B. $0.\overline{51}$

C. 0.5

D. $0.5\overline{1}$

Answer: b



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290. 0.52525252 is equal to

A. $\frac{52}{100}$

B. $\frac{52}{99}$

C. $\frac{25}{99}$

D. $\frac{52}{990}$

Answer: a



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291. If $a * b = a^2 + b^2 - ab$ then find out the value of $[(3 * 2) - (6 * 5)]$.

A. -24

B. -22

C. 24

D. 22

Answer: d



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292. If $\frac{a}{3} = \frac{b}{2}$ then find the value of $\frac{2a + 3b}{3a - 2b}$

A. $\frac{17}{5}$

B. $\frac{12}{5}$

C. $\frac{11}{5}$

D. $\frac{13}{5}$

Answer: b



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293. $(11^3 + 12^3 + 13^3 + \dots + 30^3) = ?$

A. 231200

B. 223100

C. 213020

D. 213200

Answer: c



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294. The sum of digits of a two digit no. is 8. If the digits are interchanged the new no. is 54 less than the given no. Find the number.

A. 71

B. 61

C. 17

D. 16

Answer: a



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295. Find the biggest number among the following-

0.9, $0.\bar{9}$, $0.0\bar{9}$, $0.\overline{09}$

A. a) $0.\overline{09}$

B. b) $0.0\bar{9}$

C. c) $0.\bar{9}$

D. d) 0.9

Answer: b

296. What is the descending order of $\frac{11}{17}$, $\frac{7}{11}$, $\frac{8}{15}$, $\frac{5}{9}$?

A. $\frac{11}{17} > \frac{7}{11} > \frac{5}{9} > \frac{8}{15}$

B. $\frac{11}{17} > \frac{8}{15} > \frac{7}{11} > \frac{5}{9}$

C. $\frac{11}{17} > \frac{5}{9} > \frac{7}{11} > \frac{8}{15}$

D. $\frac{11}{17} > \frac{7}{11} > \frac{8}{15} > \frac{5}{9}$

Answer: a

297. The value of $\frac{0.2 \times 0.2 \times 0.2 + 0.3 \times 0.3 \times 0.3}{0.4 \times 0.4 \times 0.4 + 0.6 \times 0.6 \times 0.6}$ is

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

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

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

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

Answer: b



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298. On simplification of $\frac{(2.644)^2 - (2.356)^2}{0.288}$ we get :

A. 1

B. 4

C. 5

D. 6

Answer: d



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299. The value of $\frac{8 \cdot (3.75)^3 + 1}{(7.5)^2 - 6.5}$ is

A. 2.75

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

C. 4.75

D. 8.5

Answer: a



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300. If $p \times q = p + q + \frac{p}{q}$, then find the value of 8×2 .

A. 20

B. 10

C. 14

D. 16

Answer: c



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301. If $a \Delta b = a - b - (-2)(a \& b > 0)$ then, find the value of $4 \Delta 3$.

A. 1

B. -1

C. 3

D. -3

Answer: a



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302. $72519 \times 9999 = ?$

A. 725117481

B. 674217481

C. 685126481

D. None of these

Answer: a



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303. The simplification of $3.\overline{36} - 2.\overline{05} + 1.\overline{33}$ equals:

A. 2.6

B. $2.\overline{61}$

C. 2.64

D. $2.\overline{64}$

Answer: c



Watch Video Solution

304. $2.\overline{75} + 3.\overline{78} = ?$

A. $1.\overline{03}$

B. $1.\overline{53}$

C. $5.\overline{53}$

D. $5.\overline{54}$

Answer: d



Watch Video Solution

305. $(6.5 \times 6.5 - 45.5 + 3.5 \times 3.5)$ is equal to

A. 10

B. 9

C. 7

D. 6

Answer: c



Watch Video Solution

306. $1 + \frac{1}{2} + \frac{1}{4} + \frac{1}{7} + \frac{1}{14} + \frac{1}{28}$ is equal to

A. 2.5

B. 2

C. 3

D. 3.5

Answer: c



Watch Video Solution

307. Which one of the following is correct ?

(i) $13^{31} > 31^{13}$

(ii) $10^{100} < 100^{10}$

(iii) $23^2 < 32^2$

A. a)(i) and (ii)

B. b)(i) and (iii)

C. c)(ii) and (iii)

D. d)(i) only

Answer: a



Watch Video Solution

308. Find the sum of first 20 terms of the sequence

$$\frac{1}{5 \times 6} + \frac{1}{6 \times 7} + \frac{1}{7 \times 8} + \dots$$

A. 0.16

B. 1.6

C. 16

D. 0.016

Answer: d



Watch Video Solution

309. $[1 + (2 + 1)(2^2 + 1)(2^4 + 1)(2^8 + 1)(2^{16} + 1)(2^{32} + 1)] = ?$

A. $2^{64} - 1$

B. $2^{64} + 1$

C. 2^{64}

D. 2^{128}

Answer: c



Watch Video Solution

310. The value of $\frac{1 + \frac{1}{2}}{1 - \frac{1}{2}} \div \frac{4}{7} \left(\frac{2}{5} + \frac{3}{10} \right)$ of $\frac{\frac{1}{2} + \frac{1}{3}}{\frac{1}{2} - \frac{1}{3}}$ is

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

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

C. $18\frac{3}{8}$

D. $37\frac{1}{2}$

Answer: b



Watch Video Solution

$$x = 1 + \frac{1}{1 + \frac{1}{1 + \frac{1}{1 + \frac{1}{2}}}}$$

311. if _____, find

$$2x + \frac{7}{4} = ?$$

A. 3

B. 4

C. 5

D. 6

Answer: b



Watch Video Solution

312. The value of

$$\frac{1}{3 + \frac{1}{2 - \frac{1}{7 - \frac{1}{9}}}} + \frac{17}{22}$$

A. $\frac{12}{22}$

B. $\frac{22}{5}$

C. $\frac{5}{22}$

D. 1

Answer: d



Watch Video Solution

313. If * represents a number then the value of * in $5\frac{3}{*} \times 3\frac{1}{2} = 19$ is :

A. 7

B. 4

C. 6

D. 2

Answer: a



Watch Video Solution

314. $\frac{13}{48} = ?$

$$\frac{1}{3 + \frac{1}{1 + \frac{1}{16}}}$$

A.

$$\frac{1}{2 + \frac{1}{1 + \frac{1}{8}}}$$

B.

$$\frac{1}{3 + \frac{1}{1 + \frac{1}{1 + \frac{1}{8}}}}$$

C.

$$\frac{1}{3 + \frac{1}{1 + \frac{1}{2 + \frac{1}{4}}}}$$

D.

Answer: c



Watch Video Solution

315. The value of $1 \div [1 \div 1 \div \{1 \div 1 \div (1 \div 1 \div 2)\}]$ is

A. 1

B. $\frac{5}{8}$

C. 2

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

Answer: b



Watch Video Solution

316. Find the value of $\frac{1}{5} + 999\frac{494}{495} \times 99$

A. 90000

B. 99000

C. 90900

D. 99990

Answer: c



Watch Video Solution

317. A man has some hens and cows. If the number of heads : number of feet = 12 : 35, find out the number of hens, if the number of heads alone is 48.

A. 28

B. 26

C. 24

D. 22

Answer: d

[Watch Video Solution](#)

318. The length of a road is one kilo metre. The number of plants required for plantation at a gap of 20 metres in both sides of the road is

- A. 102
- B. 100
- C. 51
- D. 50

Answer: a

[Watch Video Solution](#)

319. In a school $\frac{1}{10}$ of the boys are same in number as $\frac{1}{4}$ of the girls and $\frac{5}{8}$ of the girls are same in numbers as $\frac{1}{4}$ of the boys. The ratio of the boys to girls in that school is

A. 2:1

B. 5:2

C. 4:3

D. 3:2

Answer: d



Watch Video Solution

320. There are 50 boxes and 50 persons. Person 1 keeps 1 marble in every box. Person 2 keeps 2 marbles in every 2nd box, person 3 keeps 3 marbles in every third box. This process goes on till person 50 keeps 50 marbles in the 50th box. Find the total number of marbles kept in the 50th box.

A. 43

B. 78

C. 6

D. 93

Answer: b



Watch Video Solution

321. A man engaged a servant on the condition that he would pay him Rs90 and a turban after service of one year. He served only for nine months and received the turban and an amount of Rs 65. The price of turban is

A. 25

B. 18.75

C. 10

D. 2.5

Answer: b



Watch Video Solution

322. A school group charters three identical buses and occupies $\frac{4}{5}$ of the seats. After a $\frac{1}{4}$ of the passengers leave, the remaining passengers use only two of the buses. The fraction of the seats on the two buses that are now occupied is

A. $\frac{8}{9}$

B. $\frac{7}{9}$

C. $\frac{7}{10}$

D. $\frac{9}{10}$

Answer: b



Watch Video Solution

323. There are 2 teams A and B. If 3 people are shifted from Team A to Team B, then Team B has thrice the number of members than Team A. If 2 people are shifted from Team B to Team A, then Team B has double the

number of members than Team A. How many members does team B have originally ?

A. 15

B. 18

C. 42

D. 45

Answer: a



Watch Video Solution

324. If in a three-digit number the last two digits places are interchanged, a new number is formed which is greater than the original number by 45. What is the difference between the last two digits of that number ?

A. 5

B. 8

C. 6

D. 9

Answer: b



Watch Video Solution

325. The rent of a guest house for first 3 days is 50 per day, for next 5 days is 100 per day and for further days is 300 per day. Initial registration Fee is 50. If a guest paid 300 in total then for how many days he stayed in guest house?

A. 4

B. 7

C. 8

D. 10

Answer: d



Watch Video Solution

326. Some friends decided to go on a picnic and expected expense is assumed as 768. Four friends did not come for which each paid 16 extra. How many friends went for picnic?

A. 24

B. 16

C. 12

D. 8

Answer: c



Watch Video Solution

327. In a cricket match highest score in a innings is $\frac{2}{9}$ of the total score and second highest score is $\frac{2}{9}$ of the rest score. If difference between highest and second highest scores is 8 runs. Then the total score is?

A. 160

B. 172

C. 180

D. 162

Answer: d



Watch Video Solution

328. A man distributes all his money among his three sons such that he gives 7,500 to his elder son, $\frac{3}{10}$ part of his total money to his second son and third son get sum of money received by both first and second sons. what is the total money?

A. 30000

B. 35000

C. 18750

D. 37500

Answer: c



Watch Video Solution

329. The fare of a auto for first 30 km. is Rs.8 per km. for next 60 km, is Rs. 5 per km, and after for every 5 km, fare is Rs. 8.

Satish saves $\frac{1}{5}$ part of his total money after paying for Rs. 320 km. of journey. How much money he had in the starting?

A. a)1035

B. b)1135

C. c)1240

D. d)1320

Answer: b



Watch Video Solution

330. If Atul finds that he is twelfth from the right in a line of boys and fourth from the left, how many boys should be added to the line such that there are 28 boys in the line?

A. 12

B. 13

C. 14

D. 20

Answer: b



Watch Video Solution

331. In a fraction, when numerator increases by 1 and denominator increases by 2, then the fraction becomes $\frac{2}{3}$. But when numerator increases by 5 and denominator increases by 1 then fraction becomes $\frac{5}{4}$.

The original fraction is?

A. a) $\frac{3}{7}$

B. b) $\frac{5}{8}$

C. c) $\frac{5}{7}$

D. d) $\frac{6}{7}$

Answer: c



Watch Video Solution

332. In a class of 60 students each boy gives as much money as the number of girls and each girl gives as much money as the number of boys. If the total collection of money is 1600. Then find the number of girls in the class?

A. 30, 20

B. 25, 20

C. 50, 60

D. 20, 40

Answer: d



Watch Video Solution

333. From a book of 20 pages, one page has been disappeared. The sum of rest pages numbers is 195. Find numbers on both sides of left page.

A. 9, 10

B. 5,6

C. 11,12

D. 7,8

Answer: d



Watch Video Solution

334. In a examination , a student was asked to find $\frac{3}{14}$ of a certain number , By mistake , he found $\frac{3}{4}$ of it. His answer was 150 more than the

correct answer . The given number is :

A. 180

B. 240

C. 280

D. 290

Answer: c



Watch Video Solution

335. The price of 10 chairs is equal to that of 4 tables. The price of 15 chairs and 2 tables together is 4000. The total price of 12 chairs and 3 tables is

A. 3750

B. 3840

C. 3500

D. 3900

Answer: d



Watch Video Solution

336. A student was asked to find $\frac{5}{16}$ a of a number. By mistake he $(5)/(6)$ found of that number. His answer was 250 more than the correct answer. Find the given number.

A. 300

B. 480

C. 450

D. 500

Answer: b



Watch Video Solution

337. A number of friends decided to go on a picnic and planned to spend 108 on eatables. Three of them however did not turn up. As a consequence each one of the remaining had to contribute 3 extra. The number of them who attended the picnic was:

A. 15

B. 12

C. 9

D. 6

Answer: c



Watch Video Solution

338. One-fourth of a tank holds 135 litres of water. What part of the tank is full if it contains 180 litres of water?

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

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

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

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

Answer: c



Watch Video Solution

339. A man spends a $\frac{1}{4}$ th of his income on food $\frac{2}{3}$ rd of it on house rent and the remaining income which is Rs 630 on other commodities. Find his house rent.

A. 5040

B. 3520

C. 4890

D. 4458

Answer: a



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340. It $\frac{3}{4}$ of the difference of $2\frac{1}{4}$ and $1\frac{2}{3}$ is subtracted from $\frac{2}{3}$ of $3\frac{1}{4}$ the result is

A. $-\frac{48}{83}$

B. $\frac{48}{83}$

C. $-\frac{83}{48}$

D. $\frac{83}{48}$

Answer: d



Watch Video Solution

341. 380 mangoes are distributed among some boys and girls who are 85 in number. Each boy gets four mangoes and each girl gets five. The number of boys is

A. 15

B. 38

C. 40

D. 45

Answer: d



Watch Video Solution

342. A train covers the distance 200 meters 500 and 900 min 1 min, 2 minutes and 3 minutes respectively. In how many time it covers the distance of 2 km if it covers the distance every minute in the same order?

A. 4 minutes

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

C. 5 min

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

Answer: c

[Watch Video Solution](#)

343. 8 persons met on an occasion. If they shook hands with each other.

One time, how many times did the hands shake?

A. a)16

B. b)36

C. c)56

D. d)28

Answer: d

[Watch Video Solution](#)

344. Each member of a picnic party contributed twice as many rupees as the total number of members and the total collection was Rs 3042. The number of members present in the party was

- A. 2
- B. 32
- C. 40
- D. 39

Answer: d



Watch Video Solution

345. In a basket the apples becomes double of itself after each minute. In 40 minutes the basket fill completely, then in how much time the basket is filled $\frac{1}{8}$ of the total?

- A. 35 minute
- B. 36 minutes
- C. 37 minutes
- D. 38 minutes

Answer: c



Watch Video Solution

346. A boy was asked to multiply a no. by 53. The boy made a mistake by multiplying the no. by 35 instead of 53 and got the answer 1206 less than the right answer. The no to be multiplied was :

A. 62

B. 67

C. 74

D. 76

Answer: b



Watch Video Solution

347. In a classroom, if 6 students per bench are assigned to accommodate all students, one more bench will be required. However, if 7 students are accommodated per bench, there would be space left for 5 students. What is the number of students in the class?

- A. a) 30
- B. b) 42
- C. c) 72
- D. d) none of these

Answer: c



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348. $\frac{3}{4}$ of a tank is filled with water. If 30 liters of water is subtracted from the tank, then it becomes empty. The capacity of the tank is

- A. 36 liters

B. 42 liters

C. 40 liters

D. 38 liters

Answer: c



Watch Video Solution

349. A pot which is full of water, weight is 28 Kg. When the pot $\frac{1}{4}$ full, weight is 19 Kg. If the pot is $\frac{2}{3}$ full of water then the weight is

A. 8 Kg.

B. 20 Kg

C. 24 Kg

D. 18.6 Kg.

Answer: c



Watch Video Solution

350. In an examination, a student got 150 marks if he answered all the 75 question. He got 4 marks for each right answer and 2 marks are deducted for watch wrong answer from his score. Total right answer are

A. 45

B. 50

C. 55

D. 48

Answer: b



Watch Video Solution

351. In a week, there are 5 working days and each workers has to work 8 hours per day. A worker gets 2.40 per working and 3.20 per extra hour. If he earned 432 in 4 weeks then how many hour he worked?

A. 160

B. 175

C. 180

D. 195

Answer: b



Watch Video Solution

352. A person has divided his total money in his will in such a way that half of it goes to his wife, $\frac{2}{3}^{rd}$ of the remaining among his three sons equally and the rest among his four daughter equally. If each daughter gets 20,000, how much money will each son get?

A. 48233.33

B. 50333.33

C. 53333.33

D. data is incomplete

Answer: c



View Text Solution

353. In an office $\frac{1}{3}$ of total employees are female and $\frac{1}{2}$ of female have children . If $\frac{3}{4}$ of total males are married and $\frac{2}{3}$ of married males have children, then how many workers have no children.

A. $\frac{5}{18}$

B. $\frac{4}{9}$

C. $\frac{11}{18}$

D. $\frac{17}{36}$

Answer: c



Watch Video Solution

354. A man covered distance 3.5 km from a place A to B in which $1\frac{2}{3}$ Km, distance was covered by cycle, $1\frac{1}{6}$ Km, by scooter and the rest on foot.

How much part of total distance did he cover on foot?

A. $\frac{3}{19}$

B. $\frac{4}{21}$

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

D. $\frac{5}{21}$

Answer: b



Watch Video Solution

355. In a group of boys and dogs, the number of heads is 7 and number of legs is 20. How many boys and dogs are there re- spectively?

A. 2 boys, 5 dogs

B. 3 boys, 5 dogs

C. 4 boys, 3 dogs

D. 5 boys, 2 dogs

Answer: c



Watch Video Solution

356. A man read $\frac{2}{5}$ of a book on one day and $\frac{1}{3}$ more than the first read on second day. If the remained pages are 15 on third day then the total pages in the book are

A. 100

B. 105

C. 225

D. 250

Answer: c



View Text Solution

357. A common factor of $(13^7 + 11^7)$ and $(13^5 + 11^5)$ is

A. 24

B. $13^5 + 11^5$

C. $13^2 + 11^2$

D. None of these

Answer: a



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358. Which of the following is a perfect square ?

A. 3497497

B. 4587632

C. 1046529

D. 1034758

Answer: c



Watch Video Solution

359. If $\frac{1}{25.25} = 0.396$ then the value of $\frac{1}{0.0002525}$ will be

A. 3960

B. 39600

C. 0.0000396

D. 0.000396

Answer: b



Watch Video Solution

360. The numerator of a fraction is 3 less than its denominator. If 7 is added in the numerator and 2 is subtracted from the denominator, the fraction becomes 2. Find the fraction.

A. a) $\frac{5}{8}$

B. b) $\frac{8}{11}$

C. c) $\frac{7}{10}$

D. d) $\frac{3}{13}$

Answer: a



Watch Video Solution

361. In a fraction the denominator is 2 more than 3 times the numerator.

If 1 is added in both numerator and denominator, the fraction becomes

$\frac{1}{3}$. What is the fraction.

A. a) $\frac{4}{13}$

B. b) $\frac{3}{11}$

C. c) $\frac{5}{13}$

D. d) $\frac{5}{11}$

Answer: b



Watch Video Solution

362. In a two digit no. ten's digit is 5 more than unit digit. After subtracting 5 times the sum of digits from the number, the digits are interchanged. Find out the sum of both digits.

A. a)9

B. b)11

C. c)7

D. d)13

Answer: a



Watch Video Solution

363. In a three-digit number, the digit at the hundred's place is two times the digit at the unit's place and the sum of the digits is 18. If the digits are reversed, the number is reduced by 396. The difference of hundred's and ten's digit of the number is

- A. 4
- B. 2
- C. 6
- D. 3

Answer: b



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364. $999\frac{1}{7} + 999\frac{2}{7} + 999\frac{3}{7} + 999\frac{4}{7} + 999\frac{5}{7} + 999\frac{6}{7}$ is simplified to:

- A. 5997
- B. 5979

C. 5994

D. 2997

Answer: a



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365. Find the value of $\frac{9|3 - 5| - 5|4| \div 10}{-3(5) - 2 \times 4 \div 2}$

A. $\frac{9}{10}$

B. $-\frac{8}{17}$

C. $-\frac{16}{19}$

D. $\frac{4}{7}$

Answer: c



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366. The value of $\left(1 + \frac{1}{x}\right)\left(1 + \frac{1}{x+1}\right)\left(1 + \frac{1}{x+2}\right)\left(1 + \frac{1}{x+3}\right)$ is equal to \

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

B. $x + 4$

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

D. $\frac{x+4}{x}$

Answer: d



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367. If $\frac{2a+b}{a+4b} = 3$, the value of $\frac{a+b}{a+2b}$ is equal to

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

B. $\frac{2}{7}$

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

D. $\frac{10}{9}$

Answer: d



Watch Video Solution

368. How many digits are in the square root of 1166400?

A. 5

B. 3

C. 6

D. 4

Answer: d



Watch Video Solution

369. Simplify

$$\frac{1}{\sqrt{100} - \sqrt{99}} - \frac{1}{\sqrt{99} - \sqrt{98}} + \frac{1}{\sqrt{98} - \sqrt{97}} - \frac{1}{\sqrt{97} - \sqrt{96}} + \dots +$$

A. 0

B. 9

C. 10

D. 11

Answer: d



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370. If $\sqrt[2]{0.014 \times 0.14x} = 0.014 \times 0.14\sqrt[2]{y}$ then $\frac{x}{y}$ is equal to

A. a) 0.000196

B. b) 0.00196

C. c) 0.0196

D. d)0.196

Answer: b



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371. The descending order of $\sqrt[3]{4}$, $\sqrt{2}$, $\sqrt[6]{3}$ and $\sqrt[4]{5}$ is

A. $\sqrt[3]{4} > \sqrt[4]{5} > \sqrt{2} > \sqrt[6]{3}$

B. $\sqrt[4]{5} > \sqrt[3]{4} > \sqrt[6]{3} > \sqrt{2}$

C. $\sqrt{2}, \sqrt[6]{3} > > \sqrt[3]{4} > \sqrt[4]{5}$

D. $\sqrt[6]{3} > \sqrt[4]{5} > \sqrt[3]{4} > \sqrt{2}$

Answer: a



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372. $\sqrt{x^{-1}y}\sqrt{y^{-1}z}\sqrt{z^{-1}x} = ?$

A. xyz

B. \sqrt{xyz}

C. $\frac{1}{x}yz$

D. 1

Answer: d



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373. $\left(\frac{x^a}{x^b}\right)^{1/ab} \times \left(\frac{x^b}{x^c}\right)^{1/bc} \times \left(\frac{x^c}{x^a}\right)^{1/ca} = ?$

A. 1

B. $x^{1/abc}$

C. $x^{1/(ab+bc+ca)}$

D. None of these

Answer: a



Watch Video Solution

374. The value of $\left[\frac{(\sqrt{6})^5 \times (\sqrt{6})^{-3}}{(\sqrt{6})^{-2}} \right]^{3/2}$ is

A. 216

B. 36

C. $\frac{1}{36}$

D. 1296

Answer: a



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375. $\sqrt{4 + \sqrt{4 - \sqrt{4 + \sqrt{4 - \dots \infty}}}} = ?$

A. $\frac{\sqrt{13} + 1}{2}$

B. $\frac{\sqrt{17} + 1}{2}$

C. $\frac{\sqrt{11} + 1}{2}$

D. $\frac{\sqrt{21} + 1}{2}$

Answer: a



Watch Video Solution

376. $\sqrt{4 + \sqrt{4 - \sqrt{4 + \sqrt{4 - \dots \infty}}}} = ?$

A. $\frac{\sqrt{21} + 1}{2}$

B. $\frac{\sqrt{11} + 1}{2}$

C. $\frac{\sqrt{17} + 1}{2}$

D. $\frac{\sqrt{13} - 1}{2}$

Answer: d



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377. Find the value of $\left[1 - 2(1 - 2)^{-1}\right]^{-1}$

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

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

C. 1

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

Answer: a



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378. By what least number 1323 be multiplied to obtain a number which is perfect cube?

A. a)2

B. b)3

C. c)5

D. d)7

Answer: d



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379. Write 0.0000007826 in scientific form.

A. a) 7.826×10^{-7}

B. b) 78.26×10^{-8}

C. c) 782.6×10^{-9}

D. d) 0.7826×10^{-6}

Answer: a



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380. If n is a whole number greater than 1, then $n^2(n^2 - 1)$ is always divisible by :

A. 16

B. 12

C. 10

D. 8

Answer: b



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381. Both the end digits of a 99 digit number N are 2. N is divisible by 11, then all the middle digits are :

A. 1

B. 2

C. 3

D. 4

Answer: d

 [Watch Video Solution](#)

382. Find the sum of all positive multiples of 3, less than 50

A. 400

B. 404

C. 408

D. 412

Answer: c

 [Watch Video Solution](#)

383. Among the following statements, the statement which is not correct is :

A. a) Every rational number is a real number

B. b) Every real number is a rational number

C. c) Every integer is a rational number

D. d) Every natural number is an integer

Answer: b



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384. The digit at Hundred's place value of $17!$ is

A. 1

B. 0

C. 2

D. 3

Answer: b



Watch Video Solution

385. 9 guest shake hands with each other. Then total number of Handshakes will be?

A. 72

B. 81

C. 72

D. 36

Answer: d



Watch Video Solution

386. A 6 digit number is formed by repeating 2 digits for 3 times (ex. 282828, 131313). This number will always be a multiple of?

A. 10101

B. 11001

C. 101010

D. 11100

Answer: a



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387. In the expansion of $(6)^{10} \times (7)^{12} \times (5)^{55} \times (11)^{121}$, numbers of prime numbers are?

A. 213

B. 222

C. 211

D. 214

Answer: a



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388. A student is asked to multiply a number by $\frac{11}{23}$. By mistake, he divides the number by $\frac{11}{23}$ and get result 1224 more. Find the number?

A. 253

B. 506

C. 759

D. 1012

Answer: c



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389. In a college, $\frac{1}{5}$ th of the girls and $\frac{1}{8}$ th of the boys took part in a social camp. The part of students in the college who took part in the camp is :

A. $\frac{13}{2}$

B. $\frac{13}{4}$

C. $\frac{2}{13}$

D. Can't be determine

Answer: c



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390. How many natural numbers below 660 are divisible by 5 and 11 but not by 3?

A. a)8

B. b)9

C. c)10

D. d)11

Answer: a



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391. $(x^n - a^n)$ is completely divisible by $(x - a)$ is

A. n is an even natural number

B. n is an odd natural number

C. n is a natural number

D. n is a prime

Answer: c



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392. How many numbers between 300 and 785 are exactly divisible by 13?

A. 39

B. 40

C. 41

D. None of the above

Answer: d



Watch Video Solution

393. Find the smallest prime number of three digits.

A. 103

B. 107

C. 109

D. None of these

Answer: d



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394. The value of $\frac{\frac{1}{3} \div \frac{1}{3} \times \frac{1}{3}}{\frac{1}{3} \div \frac{1}{3} \text{ of } \frac{1}{3}} - \frac{1}{9}$ is

A. 0

B. 1

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

D. $\frac{1}{9}$

Answer: a



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395. The value of $999\frac{998}{999} \times 999$ is

A. 990809

B. 998996

C. 999824

D. 998999

Answer: d



Watch Video Solution

396. $0.\overline{16} = ?$

A. $\frac{16}{99}$

B. $\frac{16}{90}$

C. $\frac{4}{25}$

D. None of these

Answer: a



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397. $2.\overline{43} + 3.\overline{62} + 3.\overline{18} = ?$

A. $8.\overline{24}$

B. $9.\overline{24}$

C. $8.\overline{23}$

D. None of these

Answer: b



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398. $2.\overline{61} + 9.\overline{24} + 10.\overline{63} = ?$

A. $22.\overline{48}$

B. $21.\overline{48}$

C. $22.4\overline{8}$

D. None of these

Answer: a



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399. $0.\overline{576} = ?$

A. $\frac{576}{999}$

B. $\frac{571}{999}$

C. $\frac{571}{990}$

D. $\frac{571}{900}$

Answer: c



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400. $3.\overline{0072}=?$

A. $\frac{29772}{9900}$

B. $\frac{29772}{9999}$

C. $\frac{29772}{9990}$

D. None of these

Answer: a



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