

SIMPLIFICATION (Solutions)

1. Answer is option D

Explanation: 7158 + 0.7 × 540 + 12.5% of 672 =? × 15 7158+378+84 = ?×15 ?×15 = 7620 $= \frac{7620}{15}$ = 508

2. Answer is option C

Explanation: $(729)^{-3} \div (6561)^{-4} = 81 \times (9)^{x+2}$ $(9^3)^{-3} \div (9^4)^{-4} = 9^2 \times (9)^{x+2}$ $(9)^{-9+16-2} = (9)^{x+2}$ $(9)^5 = (9)^{x+2}$ x+2 = 5x = 3

3. Answer is option B Explanation: $\frac{3}{5}$ of $\frac{7}{9}$ of $\frac{3}{16}$ of 64% of 5250 = ? $\frac{3}{5}$ of $\frac{7}{9}$ of $\frac{3}{16}$ of $\frac{64}{100}$ of 5250 = ? = 294

4. Answer is option D Explanation: 87.5% of 3888 - 462 × 6 = ? % of 4200 $3402-2772 = \frac{x}{100} \times 4200$ 630 = 42xx = 15

5. Answer is option B Explanation: $\sqrt{6084} + \sqrt{1764} = 4.8 \times X$ $78+42 = 4.8 \times X$ $120 = 4.8 \times X$ $X = \frac{120}{4.8}$ X = 25

6. Answer is option C

Explanation:

5.5 times of $\frac{6}{11}$ of 40% of 345 =? 5.5× $\frac{6}{11}$ × $\frac{40}{100}$ ×345 = ? 414

7. Answer is option E

Explanation: $(729 \times 6 \div 9) + 343 + 71 + 431 = x^3$ or, 486 + 343 + 71 + 431 = x^3 $x^3 = 1331$ x = 11

8. Answer is option C Explanation: $\left(\frac{8}{3} \times \frac{15}{4}\right) + \left(\frac{65}{11} \times \frac{55}{13}\right) + \left(\frac{9}{2} \times \frac{4}{3}\right) = ?$ 10+25+6 = 41 9. Answer is option A Explanation: $\frac{7}{15}$ of $\frac{12}{11}$ of $\frac{1}{5}$ of 7425 = x% of 5400 $x = \frac{7 \times 12 \times 7425}{15 \times 11 \times 5 \times 54}$ x = 14

10. Answer is option B Explanation: $x \div 0.5 \times 28 = 7252$ $\frac{10x}{5} \times 28 = 7252$ 2x = 259 $x = \frac{259}{2}$ x = 129.5

11. Answer is option B Explanation: $18 \times ? = 6367 + 333 + 140$ $18 \times ? = 6840$ $? = \frac{6840}{18} = 380$

12. Answer is option C Explanation:

12.5% of 8800 - 16.67% of 5640 = 32% of x 32% of x = $\frac{8800}{8} - \frac{5640}{6}$ 32% of X = 1100-940 x = $160 \times \frac{100}{32}$ x = 500

13. Answer is option A

Explanation: $(0.7^2)^5 \times (0.7^3)^3 \div (0.7^4)^3 = (0.7)^{?+4}$ $(0.7)^{10} \times (0.7)^9 \div (0.7)^{12} = (0.7)^{?+4}$ $(0.7)^{10+9-12} = (0.7)^{?+4}$ $(0.7)^7 = (0.7)^{?+3}$?=7-4 ?=3

14. Answer is option C Explanation:

$$? - 26 = \left(\frac{47}{3}\right) + \left(\frac{100}{3}\right) + \left(\frac{75}{4}\right) \times \left(\frac{108}{15}\right)$$
$$= ? - 26 = \left(\frac{47 + 100}{3}\right) + 135$$
$$= ? - 26 = 49 + 135$$
$$= ? = 184 + 26$$
$$= ? = 210$$

15. Answer is option B Explanation:

 $(5568 \div 87)^{\frac{1}{3}} + (72 \times 2)^{\frac{1}{2}} = (?)^{\frac{1}{2}}$ $\Rightarrow (64)^{\frac{1}{3}} + (144)^{\frac{1}{2}} = (?)^{\frac{1}{2}}$ $\Rightarrow ((4)^{3})^{\frac{1}{3}} + ((12)^{2})^{\frac{1}{2}} = (?)^{\frac{1}{2}}$ $\Rightarrow 4 + 12 = (?)^{\frac{1}{2}}$ $\Rightarrow (?)^{\frac{1}{2}} = 16$ $\Rightarrow ? = 16^{2} = 256$

16. Answer is option D Explanation: 92% of 225 + 32 × 12.5% - 25% of 96 = ? 207 + 4 - 24 = 187

17. Answer is option B

Explanation: 83.33% of 1386 + 62.5% of 3648 = 15 × ? $\frac{5}{6}$ × 1386 + $\frac{5}{8}$ × 3648 = 15 × ? 1155 + 2280 = 15 × ? = $\frac{3435}{15}$ = 229

18. Answer is option A Explanation: $\frac{675}{27}$ + 112 × 1.5 – 35% of 420 = ? = 25 + 168 – 147 = 46

19. Answer is option C Explanation: 21070 ÷ 98 + 28 × 37 - 48 × 22 = ? = 215 + 1036 - 1056 = 215 - 20 = 195

20. Answer is option C Explanation: $2\frac{4}{9} \times 6\frac{6}{7} \times 5\frac{1}{4} = ?$ $= \frac{22}{9} \times \frac{48}{7} \times \frac{21}{4}$ = 88

21. Answer is option B Explanation: $1596 \times 189 \div 49 - 3398 + 1564 = ?$ $= \frac{1596}{49} \times 189 - 3398 + 1564$ = 6156 - 3398 + 1564= 4322

22. Answer is option C Explanation: $1001 \div 56 \times 112 - 1202 =?$ $= \frac{1001}{56} \times 112 - 1202$ = 2002 - 1202= 800



23. Answer is option B Explanation: $\sqrt{4624} + \sqrt{841} + 1 = 14 \times ?$ $68 + 29 + 1 = 14 \times ?$ = 7

24. Answer is option D Explanation:

966.69 + 996.96 + 966.35 =? = 2930

25. Answer is option A Explanation: $5852 \div 63 \times 36 = ? \times 19$ $\frac{5852}{63} \times 36 = ? \times 19$ = 176

26. Answer is option D Explanation: $155 \times 6 + 836 \times 5 = ?\% \text{ of } 7000$ 930 + 4180 = x% of 7000 $\frac{5110}{70} = x$ = 73

27. Answer is option D Explanation: $\frac{224}{x} = \frac{x}{56}$ $x^{2} = 224 \times 56$ $x = \sqrt{224 \times 56}$ $x = \sqrt{112 \times 2 \times 56}$ x = 112

28. Answer is option B Explanation:

 $\sqrt{?} = (39 \times 315) \div 117$ $\sqrt{?} = \frac{(315)}{3}$ $\sqrt{?} = 105$ $= (105)^2$ = 11025

29. Answer is option C Explanation: $104832 \div ? = 64 \times 42$ $= \frac{104832}{64 \times 42}$ = 39

30. Answer is option B Explanation: $\frac{2}{5} \times \frac{10}{14} \times \frac{21}{26}$ of 3692 = ?

= 852

31. Ans.(a) Sol. Here, $1\frac{1}{3} + 2\frac{1}{6} - 3\frac{1}{9} = 2 \div x$ $\Rightarrow 4/3 + 13/6 - 28/9 = 2 \div x$ $\Rightarrow (24 + 39 - 56)/18 = 2 \div x$ $\Rightarrow 7/18 = 2 \div x$ $\Rightarrow x = 36/7 = 5\frac{1}{7}$

32. Ans.(c) Sol. Here, $9/13 \text{ of } 221 + 1\frac{4}{9} \text{ of } 378 = 200 + ?$ $\Rightarrow 9 \times 17 + 13 \times 42 = 200 + ?$ $\Rightarrow 153 + 546 = 200 + ?$ $\Rightarrow x = 499$

33. Ans.(b) Sol. Here, we apply the BODMAS rule as follows (4444 ÷ 40) + (645 ÷ 25) + (3991 ÷ 26) = ? + 90.4 ? = 111.1 + 25.8 + 153.5-90.4 = 200

34. Ans.(a) Sol. Here, $[(15.5 \times 28) \div 16 - 1230 \div 240] = ? \times 22$ $\Rightarrow 434 \div 16 - 5.125 = ? \times 22$ $\Rightarrow 27.125 - 5.125 = ? \times 22$ $\Rightarrow 22 = ? \times 22$ $\Rightarrow ?=1$ = 4.4

35. Ans.(b)



Sol. Here, $5\frac{17}{37} \times 4\frac{51}{52} \times 11\frac{1}{7}$ =202/37×259/52×78/7 ?= 303

36. Ans.(c)

Sol. Here, $[(144)^2 \div 48 \times ?] \div 22 = 108$ We follow the BODMAs rule, So, $[144 \times 144/48 \times ?] \div 22 = 108$ $\Rightarrow (432 \times ?) \div 22 = 108$ $\Rightarrow (432 \times ?) = 108 \times 22$ $\Rightarrow ?=5.5$

37. Ans.(b)

Sol. Here, $(35)^2 \div \sqrt[3]{125} = ?$ $\Rightarrow 1225 \div 5$ $\Rightarrow 245$

38. Ans.(e)

Sol. Here, $(?)=(160)^2-(90)^2-7191$ $\Rightarrow (?)=25600-(8100+7191)$ $\Rightarrow (?)=25600-15291$ $\Rightarrow (?)=10309$

39. Ans.(b) Sol. Here, $7^{2.3} \times 7^{2 \times 4.7} \times (7 \times 9)^{3.4} \times (9^2)^{5.85} = 63^?$ $\Rightarrow 7^{2.3+9.4+3.4} \times 9^{3.4+11.70} = (63)^?$ $\Rightarrow 7^{15.1} \times 9^{15.1} = (63)^?$ $\Rightarrow ? = 15.1$

40. Ans.(a)

Sol. Here, 95% of ? = 2450 ⇒ ?=2450*100/95 ?=2578.95

41. Answer is option C Explanation:

544 ÷ 16 × 32 – 766 + 224 = ? = 1088 – 542 = 546

42. Answer is option A Explanation: 333.33 + 33.33 + 13 + 0.33 + 0.03 = ? = 380.2 43. Answer is option C Explanation: $525 - (13)^2 + 63 = (?)^2 + 95$ $(?)^2 + 95 = 525 - 169 + 63$ $(?)^2 = 419 - 95$ $= \sqrt{324}$ = 18

44. Answer is option B Explanation: $(52.5 * 18 * 4) \div 9 + 92 = (?)^3$ $\frac{3780}{9} + 92 = (?)^3$ $420 + 92 = (?)^3$ $= \sqrt[3]{512}$ = 8

45. Answer is option D Explanation: $28 \times 2 \times 864 \div \sqrt{2916} = ? + 540$ $\frac{28 \times 2 \times 864}{54} = ? + 540$ = 896-540= 356

46. Answer is option B Explanation: 339% of 803 + 77.8% of 1107 = ? $= \frac{340 \times 800}{100} + \frac{78 \times 1100}{100}$ = 2720 + 858= 3578Approx. 3580

47. Answer is option A

Explanation: 32.88% of 1506 + 46.94% of 804 = ? $= \frac{33 \times 1500}{100} + \frac{47 \times 800}{100}$ = 495 + 376= 870 Approx.

48. Answer is option B Explanation:



58.5% of 4862 + ?% of 2748 = 3505 $\frac{58.5 \times 4860}{100} + \frac{x \times 2750}{100} = 3505$ $= 2843 + \frac{55x}{2} = 3505$ $= \frac{55x}{2} = 3505 - 2843$ $= x = 662 \times \frac{2}{55}$ = x is approx. 24

49. Answer is option A Explanation:

 $1206 \div 47.92 + 40.11 \times 16.96 = ?$ = $\frac{1200}{48} + 40 \times 17$ = 25 + 680 = 705

50. Answer is option B

Explanation: $148\% \text{ of } 1212 - 11.99 \times 25.02 = ?$ $= \frac{150 \times 1200}{100} - 12 \times 25$ = 1800 - 300= 1500

51. Answer is option B Explanation:

62.5% of 800 - 33.33% of 960 = 125% of x 125% of x = $\frac{800}{8} \times 5 - \frac{960}{3}$ 125% of x = 500-320 x = $180 \times \frac{100}{125}$ x = 144

52. Answer is option A Explanation: $(2)^5 \times (32)^3 \div (64)^2 = (40 \div 10)^{?+1}$ $(2)^5 \times (2)^{15} \div (2)^{12} = (4)^{?+1}$ $(2)^8 = (2)^{2x+2}$ Base is same 8 = 2x+2x = 3

53. Answer is option C

Explanation:

$$? - 26 = \left(\frac{47}{3}\right) + \left(\frac{100}{3}\right) + \left(\frac{75}{4}\right) \times \left(\frac{108}{15}\right)$$
$$? - 26 = \left(\frac{47 + 100}{3}\right) + 135$$
$$? - 26 = 49 + 135$$
$$? = 210$$

54. Answer is option D Explanation: $\frac{2}{5}$ of $\frac{6}{5}$ of $\frac{5}{12}$ of 44% of 6250 = ? = 550

55. Answer is option A Explanation: $\sqrt{2916} + \sqrt{1296} = 4.5 \times x$ $54 + 36 = 4.5 \times x$ $x = 90 \times \frac{10}{45}$ = 20

56. Answer is option E Explanation: $\left(\frac{8}{3} \times \frac{15}{4}\right) + \left(\frac{52}{9} \times \frac{36}{13}\right) + \left(\frac{15}{2} \times \frac{24}{10}\right) = ?$ = 10+16+18 = 54

57. Answer is option D Explanation: $\frac{660}{22}$ + 84 × 6 - 65% of 560 = ? = 30 + 504 - 364 = 170

58. Answer is option C Explanation: $\sqrt{?} = (66 \times 240) \div 132$ $\sqrt{?} = \frac{(66 \times 240)}{132}$ $= 120^2 = 14400$

59. Answer is option C Explanation: 145 × 6 + 240 × 5 = ? % of 3000 870 + 1200 = ? % of 3000 $= 2070 \times \frac{100}{3000}$ = 69

60. Answer is option B Explanation: $(62.5 \times 12 \times 3) \div 9 - 34 = (?)^3$ $(?)^3 = 250-34$ $= \sqrt[3]{216}$ = 6

61. Answer is option B Explanation: $\frac{2}{3}$ of $\frac{9}{7}$ of $\frac{8}{13}$ of 63% of 4550 = ? $\frac{2}{3} \times \frac{9}{7} \times \frac{8}{13} \times \frac{63}{100} \times 4550 = ?$ = 1512

62. Answer is option D Explanation: 3.5 times of $\frac{7}{15}$ of 60% of 550 = ? $3.5 \times \frac{7}{15} \times \frac{60}{100} \times 550 = ?$ 539

63. Answer is option C Explanation: 12.5% of 9600 - 16.67% of 3240 = 33% of x 33% of x = $\frac{9600}{8} - \frac{3240}{6}$ 33% of X = 1200-540 x = $660 \times \frac{100}{33}$ x = 2000 64. Answer is option B Explanation: $\frac{3}{5}$ of $\frac{7}{9}$ of $\frac{3}{16}$ of 64% of 5250 = ? $\frac{3}{5}$ of $\frac{7}{9}$ of $\frac{3}{16}$ of $\frac{64}{100}$ of 5250 = ? = 294

65. Answer is option A Explanation: $\frac{675}{15} + 80 \times 2.5 - 45\%$ of 400 = ?= 45 + 200 - 180 = 65

66. Answer is option C Explanation: $2\frac{4}{9} \times 6\frac{6}{7} \times 5\frac{1}{4} = ?$ $= \frac{22}{9} \times \frac{48}{7} \times \frac{21}{4} = 88$

67. Answer is option C Explanation: $980 \div 28 \times 125 - 1875 =?$ $= \frac{980}{28} \times 125 - 1875$ = 4375 - 1875= 2500

68. Answer is option B Explanation: $\sqrt{4624} + \sqrt{841} + 1 = 14 \times ?$ 68 + 29 + 1 = 14 ×? = 7

69. Answer is option B Explanation: 150% of $\frac{5}{8}$ of x = 75% of 1250 x = 1000

70. Answer is option C **Explanation:** $\frac{3}{5}$ of $\frac{7}{4} \times \frac{16}{21}$ of 2425= ? = 1940

71. Answer is option B Explanation: 444 ÷ 12 × 28 – 724 + 112 = ? = 1036 – 836 = 200

72. Answer is option B Explanation: 444.44 + 44.44 + 14 + 0.44 + 0.04 = ? = 503.36

73. Answer is option A



Explanation:

 $(43.5 \times 15 \times 6) \div 27 + 71 = (?)^{3}$ $\frac{^{3915}}{^{27}} + 71 = (?)^{3}$ $145 + 71 = (?)^{3}$ $= \sqrt[3]{216}$ = 6

74. Answer is option C Explanation:

 $\frac{125 \times 3 \times 171 \div \sqrt{3249}}{\frac{125 \times 3 \times 171}{57}} = ? + 550$ = 1125-550 = 575

75. Answer is option C Explanation: $\frac{7}{18}$ of $\frac{12}{7}$ of $\frac{3}{4}$ of 4320 = x% of 5400 2160 = x% of 5400 x = 40

76. Answer is option A Explanation: 139% of 851 - 74.8% of 1260 = ? Let $\frac{140}{100} \times 850 - \frac{75}{100} \times 1260 = ?$ = 1190 - 945 = 245

77. Answer is option D Explanation: 24.92% of 1504 + 44.88% of 804 = ? = $\frac{25}{100} \times 1500 + \frac{45}{100} \times 800$ = 375 + 360 = 735

78. Answer is option C

Explanation: 12.5% of 4436 + ?% of 5503 = 1545 Let $\frac{12.5}{100}$ ×4440 + $\frac{x}{100}$ ×5500 = 1545 555+ 55x = 1545 55x = 1545–555 $x = \frac{990}{55}$ = 18%

79. Answer is option B Explanation: $2405 \div 47.88 + 20.12 \times 24.96 = ?$ Let, $\frac{2400}{48} + 20 \times 25$ = 50 + 500 = 550

80. Answer is option D Explanation: 59.92% of 1404 + 19.88% of 804 = ? = $\frac{60}{100}$ ×1400 + $\frac{20}{100}$ ×800 = 840 + 160 = 1000

81. Answer is option B Explanation: 69.39 - 58.46 + 79.98 = ? + 76.92 = 90.91-76.92 = 13.99

82. Answer is option D Explanation: $40.5 \times 7 \times 4 \div 6 - (8)^2 = (?)^3$ $189-64 = (?)^3$ $125 = (?)^3$ = 5

83. Answer is option C Explanation: $\sqrt{12 \times 184 \div 23 + 26 - 73} = ?$ $\sqrt{96 + 26 - 73} = ?$ $= \sqrt{96 + 26 - 73}$ $= \sqrt{96 + 26 - 73}$ $= \sqrt{96 + 26 - 73}$ $= \sqrt{49}$ = 7



84. Answer is option C Explanation: $(13)^2 - (4)^3 - \sqrt{676} + 2 = (?)$

 $(13)^{2} - (4)^{2} - \sqrt{676} + 2 = (?)$ (?) = 169 - 64 - 26+2 = 81

85. Answer is option E

Explanation:

(1024 - 362 - 214) ÷ (786 - 730) = ? = 448÷ 56 = 8

86. Answer is option A

Explanation:

 $31^{11.3} \times 31^{4.7} = 31^{2\times?}$ $31^{16} = 31^{2\times?}$ $? = \frac{16}{2}$? = 8

87. Answer is option D Explanation: $23\frac{8}{9} + 15\frac{7}{9} - 12\frac{1}{3} \times \frac{2}{3} = ?$ $= \frac{357}{9} - \frac{74}{9}$ $= \frac{283}{9}$ $= 31\frac{4}{9}$

88. Answer is option B Explanation: 56 × 15 ÷ 3 – 83 = ? – 139 280–83 = ? – 139 = 336

89. Answer is option D

Explanation: 56% of 616 - ?% of 482 = 103.96 344.96 - ?% of 482 = 103.96 ?% of 482 = 241 $\frac{?}{100}$ ×482 = 241 = 50

90. Answer is option B Explanation:

$$1\frac{1}{6} - 1\frac{1}{9} + 1\frac{1}{54} = ?$$

= (1-1+1)+ $\left(\frac{1}{6} - \frac{1}{9} + \frac{1}{54}\right)$
= $1 + \frac{2}{27}$
= $1\frac{2}{27}$

91. Answer is option E Explanation: 11.88% of 625.31 = ? $\frac{12}{100} \times 625 = 75$

92. Answer is option A Explanation: 1011.11 + 110.1 + 110.01 = ? = 1231.22 Approx. 1230

93. Answer is option C Explanation: $\frac{323}{55} \times \frac{971}{251} \times \frac{56}{61} = ?$ Let, $\frac{325}{55} \times \frac{970}{250} \times \frac{56}{60} = ?$ = 20.8 Approx. 21

94. Answer is option B Explanation: 31.88 × 2801 ÷ 551 + 120 = ? Let, 32×2800 ÷ 550 + 120 = ? = 162.9 + 120 = 283 approx

95. Answer is option A Explanation:



 $4734.96 - 3454.03 - 1612.86 = (?) - = \frac{41}{16}$ = 4735 - 3454 - 1613 + 1611 = 1611-332 = 1279 Approx. 1280

96. Answer is option C Explanation: $\left(\frac{3}{2} \times \frac{16}{4} \times \frac{3}{8}\right) + \left(\frac{3}{8} \times \frac{12}{4} \times \frac{18}{2}\right) = ?$ $\frac{9}{4} + \frac{81}{8} = \frac{18+81}{8}$ $= \frac{99}{8}$ $= 12\frac{3}{8}$

97. Answer is option C Explanation: $(3080 + 6160) \div ? = 330$ $= \frac{9240}{330}$ = 28

98. Answer is option D Explanation: ? × (523.5+687.5)=24220 ? × (1211) = 24220 = 20

99. Answer is option D Explanation: $(5 \times 5 \times 5 \times 5 \times 5) = 2$

 $\binom{5 \times 5 \times 5 \times 5 \times 5}{2+2+2+2+2} = ?$ = $\frac{3125}{10}$ = 312.5

100. Answer is option A Explanation:

 $\frac{\frac{3}{4} + \frac{5}{8} + \frac{13}{16} + \frac{3}{8} = ?}{= \frac{12 + 10 + 13 + 6}{16}}$

