TOP 100 QUESTIONS OF QUANTITATIVE APTITUDE

Q1. In what ratio must a grocer mix tea of Rs 72 kg and Rs 90 kg, so that by selling the mixture at Rs 99.6 Rs/kg he gains 20%?
(a) 2 : 3
(b) 7 : 11
(c) 3 : 7
(d) 13 : 19

Q2. The sum of the interior angles of hexagon is.
(a) 720°
(b) 540°
(c) 360°
(d) 960°

Q3. Arrange the fraction $\frac{3}{4}, \frac{5}{12}, \frac{13}{16}, \frac{16}{29}, \frac{3}{8}$, in their ascending order of magnitude.
(a) $\frac{3}{4} < \frac{3}{8} < \frac{13}{16} < \frac{16}{29} < \frac{5}{12}$
(b) $\frac{3}{8} < \frac{5}{12} < \frac{16}{29} < \frac{3}{4} < \frac{13}{16}$
(c) $\frac{3}{8} < \frac{5}{12} < \frac{16}{29} < \frac{13}{16} < \frac{3}{4}$
(d) $\frac{3}{8} < \frac{5}{12} < \frac{13}{16} < \frac{16}{29} < \frac{3}{4}$

Q4. If the lengths of the sides of a triangle are 21m, 28m and 35 m and the area in (m²).
(a) 394 m²
(b) 284m²
(c) 296m²
(d) 294m²

Q5. Two articles are sold at the same price 1st was sold at profit of 37.5% and 2nd was sold at a loss of 8.33% If there is total profit of Rs. 8634, then find their selling price (individual)?
(a) Rs. 43170
(b) Rs. 86340
(c) Rs. 47487
(d) Rs. 34537

Q6. 12 pumps working 6 hours a day can empty a completely filled reservoir in 15 days. How many such pumps working 9 hours a day will empty the same reservoir in 12 days.
(a) 15 Pumps
(b) 9 Pumps
(c) 10 Pumps
(d) 12 Pumps

Q7. Two years ago, Raju was three times as old as his son and two years hence, twice his age will be, equal to five times that of his son, Difference of their present ages is
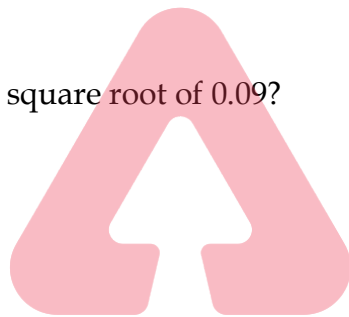(a) 24 yrs
(b) 28 yrs
(c) 38 yrs
(d) 14 yrs

Q8. If $x^2 + 9y^2 = 6xy$, then $x : y$ is
(a) 1 : 3
(b) 3 : 2
(c) 3 : 1
(d) 2 : 3

Q9. What is the square root of 0.09?
(a) 0.3
(b) 0.03
(c) 0.003
(d) 3

Q10. If the ratio of a to b is 6 : 7 and the ratio of b to c is 8 : 9, then the ratio of (a + c) to (c − a) is
(a) 24 : 1
(b) 36 : 5
(c) 37 : 5
(d) 47 : 7

Q11. The speed is 2 m/sec, when expressed in km/hr becomes
(a) 3.6 km/hr
(b) 7.2 km/hr
(c) 4.8 km/hr
(d) 6 km/hr

Q12. Find the value of $(512)^{-\frac{2}{9}}$
(a) 4
(b) $\frac{1}{4}$
(c) $\frac{3}{4}$
(d) $\frac{5}{4}$

Q13. 12 is 0.2% of ?
(a) 2400
(b) 600
(c) 240
(d) 6000

Q14. The average of 5 quantities is 6, the average of three of them is 4. What is the average of remaining two quantities?
(a) 7
(b) 8
(c) 9
(d) 10

Q15. The minimum number of tiles, each measuring 8 cm × 6 cm, needed to form a square (without overlapping) are
(a) 48
(b) 4
(c) 8
(d) 12

Q16. The sum of money doubles itself in 7 yrs at simple interest. In how many years it becomes four fold?
(a) 10 yrs
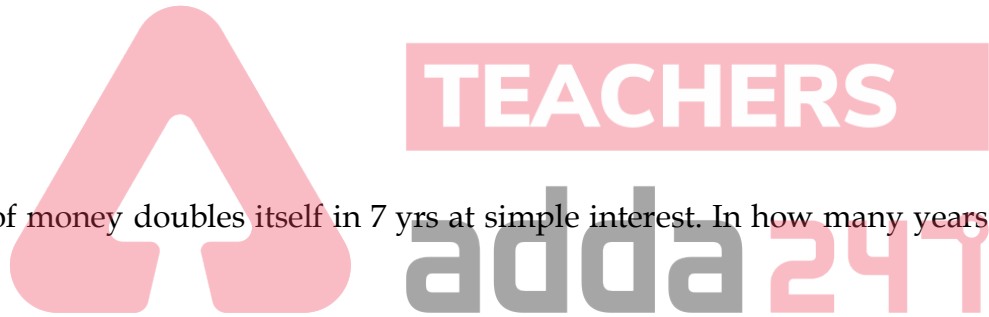(b) 35 yrs
(c) 14 yrs
(d) 21 yrs

Q17. The surface area of a cube is 726 sq. metre. Find the volume of the cube.
(a) 1313 m³
(b) 1331 m³
(c) 1286 m³
(d) None of these

Q18. The cost price of 20 pencils is equal to the selling price of 25 pencils. The loss percent in the transaction is
(a) 5
(b) 20
(c) 25
(d) 30

Q19. If S is 150% of T, then T is what percent less than S + T ?

(a) 40%

(b) 60%

(c) 70%

(d) 80%

Q20. X alone can do a piece of work in 12 days and Y alone can do the same work in 6 days. In how many days will both together complete the same work?

(a) 3

(b) 4

(c) 5

(d) 2

Q21. A 800 metres long train is running at the speed of 90 km/hr. If it crosses a bridge in 50 seconds, then what is the length (in metres) of the bridge?

(a) 250

(b) 300

(c) 350

(d) 450

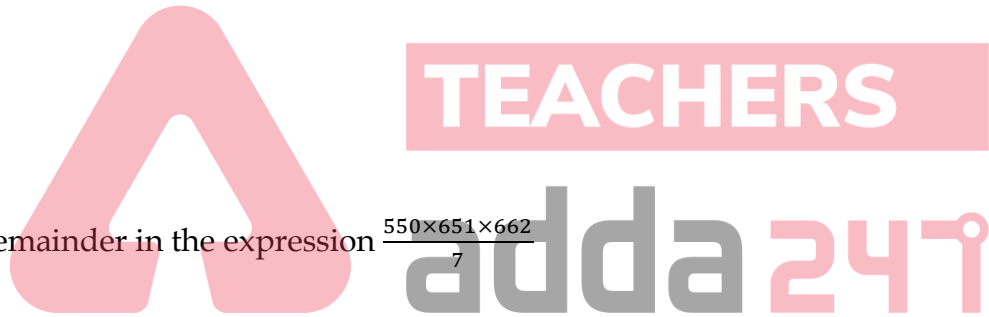**Q22.** Find the remainder in the expression $\frac{550 \times 651 \times 662}{7}$

(a) 5

(b) 4

(c) 0

(d) 3

Q23. Simplify $(11.998)^3$ = ?

(a) 1727.136

(b) 1331.136

(c) 1685.136

(d) 1700.136

Q24. The length of the diagonal and the breadth of a rectangle are 26 cm and 10 cm respectively. Find its perimeter (in cm).

(a) 68

(b) 136

(c) 43

(d) 86

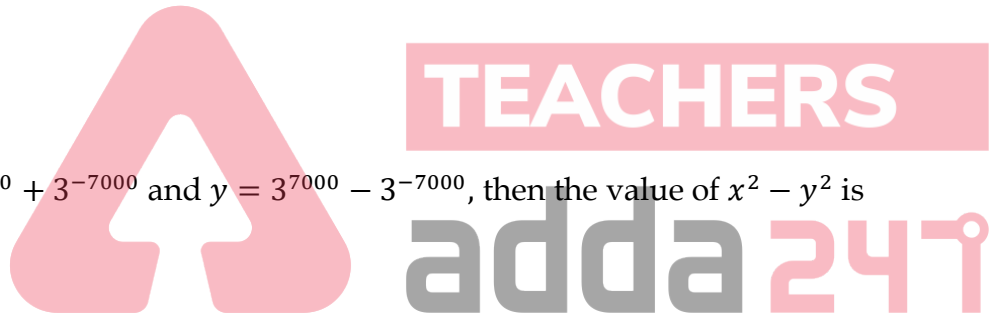**Q25.** If $\frac{-5x}{3} + 2 = x - 6$ then find the value of 'x'.

(a) 1

(b) 2

(c) 3

(d) 4

Q26. What is the value of x in $(6 \times 6)^3 \div (36 \times 6)^3 \times (1296)^2 = 6^x$

(a) 7

(b) 5

(c) 6

(d) 8

Q27. In a cricket match, Rohit Sharma scored 264 runs which included 33 fours and 9 sixes. What percent of his total score did he made by running between the wickets?

(a) 29.54%

(b) 60.75%

(c) 70.45%

(d) 68.07%

Q28. If $x = 3^{7000} + 3^{-7000}$ and $y = 3^{7000} - 3^{-7000}$, then the value of $x^2 - y^2$ is

(a) 3

(b) 4

(c) 1

(d) 2

Q29. The value of $\frac{\sqrt{360} \times \sqrt{90}}{\sqrt{324}}$ is

(a) 24

(b) 12

(c) 16

(d) 10

Q30. What number should be subtracted from $\left(-\frac{3}{4}\right)$ and be added to $\left(-\frac{4}{5}\right)$ so that both the number becomes equal?

(a) 0.75

(b) 0.025

(c) 1

(d) 0.05

Q31. For a New Year party, 30 whisky bottles are required. How many whisky bottles will be required to the same party if the quantity of whisky in each bottle is reduced to $\frac{7}{10}$ th of its present?
(a) 10.07
(b) 35
(c) 62.5
(d) 42.85

Q32. The product of two numbers is 2187. If HCF of these numbers is 27, then the greater number is
(a) 108
(b) 85
(c) 81
(d) 27

Q33. The perimeter of a semi-circle is 18 cm. Find the area of the same semi-circle (in cm²).
(a) 12.25
(b) 25.50
(c) 19.25
(d) 16.64

Q34. The length of the platform, which a train 180 m long and travelling at 51 km/hr can cross in 36 seconds is
(a) 330 m
(b) 225 m
(c) 250 m
(d) 300 m

Q35. Three times of second of three consecutive odd numbers is 9 more than twice of the third. The first number is
(a) 10
(b) 11
(c) 14
(d) 13

Q36. In a mixture of 100 litres, the ratio of milk and water is 3 : 2. If this ratio is to be 2 : 3, then the quantity of water to be further added is
(a) 50 litres
(b) 60 litres
(c) 45 litres
(d) 48 litres

Q37. A motor boat travelling at the same speed can cover 30 km upstream and 42 km downstream in 8 hours. At the same speed in can travel 42 km upstream and 56 km downstream in 11 hours. What is speed of boat in still water?
(a) 4 km/hr
(b) 10 km/hr
(c) 5 km/hr
(d) 2 km/hr

Q38. Anu can do a piece of work in 8 days. Anu undertook it for Rs 400. With the help of Manu, she finishes the work in 6 days. What is the share of Manu?
(a) Rs. 100
(b) Rs. 80
(c) Rs. 120
(d) Rs. 320

Q39. The length of a rectangular park is 20 m more than its breadth. If the cost of fencing the park at Rs. 17.50 per metre is Rs. 3500. What is the length of the plot?
(a) 40 m
(b) 50 m
(c) 120 m
(d) 60 m

Q40. Sanjay's father was 28 yrs old when he was born while his mother was 26 yrs old when his sister 3 yrs younger to him was born. What is the difference between the ages of her parents?
(a) 2 yrs
(b) 5 yrs
(c) 6 yrs
(d) 8 yrs

Q41. In covering a distance of 60 km, Stefan takes 2 hours more than Damon. If Stefan doubles his speed, then he would take 1 hour less than Damon. Stefan's speed is
(a) 10 km/hr
(b) 7.5 km/hr
(c) 5 km/hr
(d) 15 km/hr

Q42. If x = -3 and y = 4, which of the following gives the smallest number?
(a) $x + y$
(b) $-xy$
(c) $\frac{x}{y}$
(d) $y - 1$

Q43. Anushka sold on AC at 7% gain. Had it been sold for Rs 960 more, the gain would have been 11%. The cost price (in Rs.) of the AC was
(a) 20000
(b) 18000
(c) 24000
(d) 28000

Q44. The difference the simple interest on a certain sum of money at 8% per annum for 7 yrs and at 7% per annum for 5 yrs is Rs 630. Find the sum.
(a) Rs 3000
(b) Rs 2000
(c) Rs 2500
(d) Rs 1800

Q45. If a + b + c = 7 and ab + bc + ca = 24, the find the value of a² + b² + c²
(a) 0
(b) 1
(c) 49
(d) 48

Q46. The average age of a class including 5 students and one teacher is 25 yrs. If the teacher whose age is 35 years is replaced with two new students, the average age of class reduced by 1 yrs. Find the sum of age of new students.
(a) 50 yrs
(b) 47 yrs
(c) 60 yrs
(d) 53 yrs

Q47. Simplify 48% of $2500 - \frac{7^3 \times 8}{\sqrt{196}} - 15\%$ of $\frac{80}{3}$
(a) 1050
(b) 1000
(c) 1500
(d) 1100

Q48. Two pipes A and B can fill a cistern in $22\frac{1}{2}$ min. and 15 min. resp. Both pipes are opened together. The cistern will be filled in 10 min, if the pipe A is turned off after :
(a) 5 min
(b) 7.5 min
(c) 9 min
(d) 15 min

Q49. Two numbers are 75% and 40% more than third number what percentage more is the first number of the second?
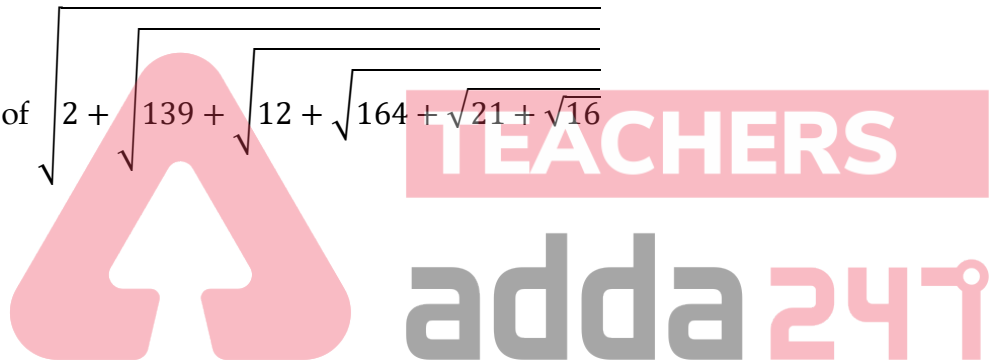
(a) 25%

(b) 12.5%

(c) 20%

(d) 90%

Q50. The average price of three items of garments is Rs. 19000. If their prices are in the ratio 4 : 6 : 9, then find the price of expensive item?

(a) Rs. 12000

(b) Rs. 18000

(c) Rs. 27000

(d) Rs. 21000

Q51. The value of $\sqrt{2 + \sqrt{139 + \sqrt{12 + \sqrt{164 + \sqrt{21 + \sqrt{16}}}}}}$

(a) $\sqrt{15}$

(b) $\sqrt{14}$

(c) $\sqrt{17}$

(d) $\sqrt{19}$

Q52. Arun's birthday is on Sunday, 2nd December 2018. Due to some reasons, he did not celebrate his birthday on that day. If Arun wants to celebrate his birthday after 2 years on the same date, then on which day, Arun will celebrate his birthday?

(a) Wednesday

(b) Tuesday

(c) Monday

(d) Sunday

Q53. If x + y + z = 8, and xy + yz + zx = 20, Find $x^2 + y^2 + z^2$.

(a) 24

(b) 26

(c) 22

(d) 25

Q54. There are three numbers. If the first number is 50% more than second number and the third number is 50% less than the second number. Then find the ratio of the difference between the first and third number to the second number.

(a) 1 : 2

(b) 2 : 1

(c) 2 : 3

(d) 1 : 1

Q55. What number must be added to the numerator and denominator of $\frac{8}{5}$ to give $\frac{4}{3}$.

(a) 2

(b) 3

(c) 4

(d) 5

Q56. Solve $9^{\sqrt{x}} + 40^{\sqrt{x}} = 41^{\sqrt{x}}$

(a) 4

(b) 2

(c) 1

(d) 3

Q57. A seller increased the price of an item by 40% and later on he reduced the price by 40%. Then what will be the Gain% or Loss%.

(a) Gain 16%

(b) Loss 16%

(c) Gain 20%

(d) Loss 20%

Q58. The length of a rectangle is 5 more than twice its breadth. If the area of rectangle is 75 m². Then find the perimeter of the rectangle.

(a) 30 m

(b) 40 m

(c) 50 m

(d) 35 m

Q59. If the diameter of a circle is increased by 11%, then its area is increased by what percentage ?

(a) 21.21

(b) 22.21

(c) 23.21

(d) 24.21

Q60. $27^3 + 25^3 - 52^3 + 105300$ is equal to

(a) 1

(b) −1

(c) 0

(d) 2

Q61. A number divides 228 leaving a remainder 18. The biggest two-digit value of the number is
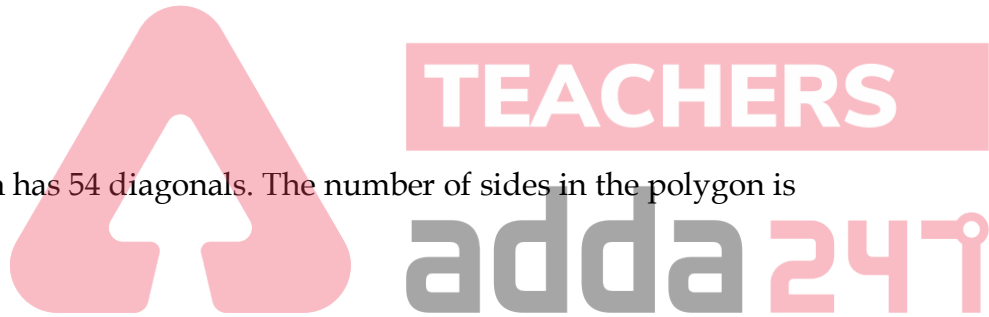
(a) 95

(b) 90

(c) 80

(d) 70

Q62. The average of 50 numbers is 40. The average of these 50 numbers and 5 others new number is 45. The average of the five new numbers is.

(a) 85

(b) 95

(c) 75

(d) 65

Q63. A polygon has 54 diagonals. The number of sides in the polygon is

(a) 14

(b) 13

(c) 12

(d) 15

Q64. A river 4 m deep and 50 m wide in flowing at the rate of 6 km/hr. How much water (in litres) will fall into the sea in a minute?

(a) 3×10^6 litres

(b) 2×10^7 litres

(c) 2×10^6 litres

(d) 3×10^7 litres

Q65. The population of a town in the year 2002 was 4 lakhs. The people start shifting from there to other town at the rate of 5% per year, then what will be population in 2005.

(a) 342950

(b) 324590

(c) 426390

(d) 426930

Q66. The difference between the CI and SI for 3 years on a certain sum of money at 20% is Rs. 96. Find the sum

(a) 650

(b) 550

(c) 655

(d) 750

Q67. Find the fraction which bears the same ratio to $\frac{4}{5}$ that $\frac{1}{8}$ does to $\frac{11}{13}$.

(a) $\frac{13}{100}$

(b) $\frac{13}{110}$

(c) $\frac{12}{115}$

(d) $\frac{12}{117}$

Q68. By selling a cap for Rs. 450, Kishan have a loss of 20%. To earn a profit of 20%, Kishan should sell the article at which amount.

(a) Rs. 575

(b) Rs. 675

(c) Rs. 525

(d) Rs. 650

Q69. Simplify:- $(a + b - c)^2 - (a - b + c)^2$

(a) 4a (b – c)

(b) 4c (a – b)

(c) 4b (a – c)

(d) 4a (b + c)

Q70. The sum of two numbers is 40 and their difference is $\frac{1}{5}$ of their sum. Their LCM is

(a) 48

(b) 46

(c) 42

(d) 44

Q71. Amit works twice as much as Dev. If both of them finish the work in 12 days, then Amit alone can do it in how many days.

(a) 21 days

(b) 16 days

(c) 20 days

(d) 18 days

Q72. If Atul walks at 15 km/hr for 4 hours and covers a certain distance. To cover the same distance in $1\frac{2}{3}$ hours, Atul must travel at a what speed?
(a) 36 km/hr
(b) 42 km/hr
(c) 34 km/hr
(d) 40 km/hr

Q73. The sum of four consecutive even number is 748. The smallest among them is
(a) 184
(b) 186
(c) 182
(d) 188

Q74. The value of $\left(1 - \frac{1}{3}\right)\left(1 - \frac{1}{4}\right)\left(1 - \frac{1}{5}\right)\ldots\ldots\ldots\left(1 - \frac{1}{99}\right)\left(1 - \frac{1}{100}\right)$
(a) $\frac{1}{50}$
(b) $\frac{1}{60}$
(c) $\frac{1}{25}$
(d) $\frac{1}{100}$

Q75. Which one is greatest
$2^{1/2}, 3^{1/3}, 8^{1/8}, 9^{1/9}$
(a) $2^{1/2}$
(b) $9^{1/9}$
(c) $8^{1/3}$
(d) $3^{1/3}$

Q76. A container contains 100 liters of milk. From this container 20 liters of milk was taken out and replaced by water. The process is repeated two more times. How much milk is now left in the container?
(a) 51.2 lit.
(b) 50 lit.
(c) 48.76 lit.
(d) 53.35 lit.

Q77. A clock gains 18 minutes per day. If it is set right at 12 noon, the time it shows at 8 am is:-
(a) 8:20 AM
(b) 8:15 AM
(c) 8:10 AM
(d) 8:02 AM

Q78. If the perimeter of a circle is decreased by 40%, then the percentage decrease in area is :-
(a) 80%
(b) 50%
(c) 64%
(d) 75%

Q79. The difference of two numbers is 2736. On dividing the larger number by the smaller, we get 12 as quotient and 30 as remainder. What is the smaller number?
(a) 235
(b) 2706
(c) 270
(d) 246

Q80. Simplified form of $\left[\left(\sqrt[7]{x^{-2/7}}\right)^{\frac{-7}{2}}\right]^{7}$ is :-

(a) x
(b) x^7
(c) x^{-7}
(d) $1/x$

Q81. The sum of two numbers is 36 and their HCF and LCM are 3 and 105 respectively. The sum of the reciprocals of two numbers is :-
(a) $\frac{2}{35}$
(b) $\frac{4}{35}$
(c) $\frac{3}{25}$
(d) $\frac{2}{25}$

Q82. A sum of Rs. 13000 deposited at compound interest becomes double after 6 years. How much it will be after 24 years?
(a) Rs.1,58,000
(b) Rs.2,88,000
(c) Rs.2,08,000
(d) Rs.1,92,000

Q83. A copper wire of length 36m and diametre 2mm is melted to form a sphere. The radius of the sphere (in cm) is :
(a) 2.5
(b) 3.5
(c) 4
(d) 3
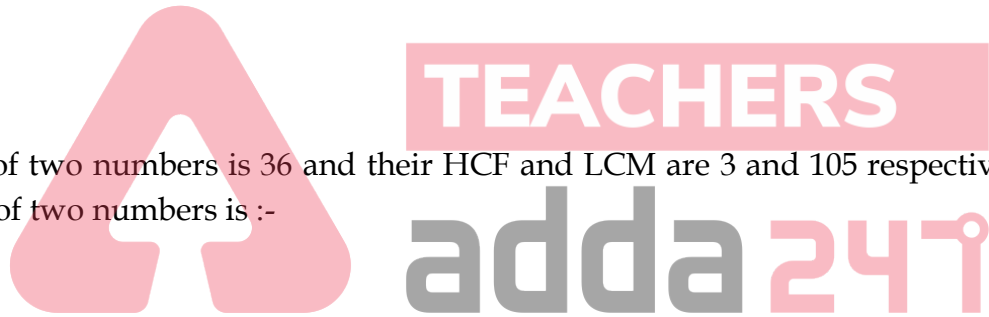
Q84. A shopkeeper sells sugar in such a way that selling price of 950 gm of sugar is same as the cost price of 1kg of sugar. What is his gain percent?
(a) 5
(b) $5\frac{5}{19}$
(c) $5\frac{1}{5}$
(d) $4\frac{1}{19}$

Q85. In a 250m race, Atul defeats Lovnish by 5 seconds. If the speed of Atul is 36kmph, then the speed of Lovnish is.
(a) 30 kmph
(b) 32 kmph
(c) 25 kmph
(d) 35 kmph

Q86. A can finish a work in 24 days and B can do the same work in 20 days. B worked for 15 days, and left the job. In how many days, A alone can finish the remaining work ?
(a) 5 days
(b) $5\frac{1}{2}$ days
(c) 6 days
(d) 8 days

Q87. In 10 years, A will be twice as old as B was 10 years ago. If A is now 9 years older than B, the present age of B is :
(a) 19 years
(b) 29 years
(c) 35 years
(d) 39 years

Q88. A cone and a hemisphere have equal bases and equal volume. Find the ratio of their heights?
(a) 1 : 2
(b) 2 : 1
(c) 3 : 1
(d) 3 : 4

Q89. Two trains each 420 metre long, are running in opposite directions on parallel tracks. If their speeds are 64km/hr and 44 km/hr respectively, the time taken by the slower train to pass the driver of the faster one is
(a) 24 sec.
(b) 12 sec.
(c) 10 sec.
(d) 14 sec.

Q90. What is value of $\left[5\frac{1}{2} + \left(2 \div 3\frac{3}{4}\right) - 4\frac{2}{15}\right]$?

(a) $\frac{25}{30}$

(b) $\frac{30}{57}$

(c) $\frac{57}{30}$

(d) $\frac{23}{30}$

Q91. The average marks in English of two sections A and B of class X in the annual examination is 75. The average marks of section A is 78.5 and that of section B is 71. The ratio of the number of students of sections A and B is

(a) 8 : 7

(b) 7 : 5

(c) 7 : 8

(d) 8 : 5

Q92. In a factory 60% of the workers are above 30 years and of these 75% are males and the rest are females. If there are 1350 male workers above 30 years, the total numbers of workers in the factory are

(a) 3000

(b) 1800

(c) 2200

(d) 1500
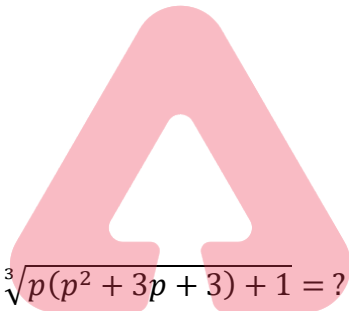
Q93. If p = 114, $\sqrt[3]{p(p^2 + 3p + 3) + 1} = ?$

(a) 5

(b) 7

(c) 113

(d) 115

Q94. A motor boat, whose speed is 20 km/hr in still water goes 30km downstream and comes back in a total of 4 hours. The speed of stream (in km/hr) is :

(a) 12

(b) 10

(c) 8

(d) 9.5

Q95. If $\sqrt{1 + \frac{x}{9}} = \frac{13}{3}$, then the value of x is

(a) $\frac{1439}{9}$

(b) 169

(c) 160

(d) $\frac{1443}{9}$

Q96. The sides of a triangle are in the ratio 2 : 3 : 4. The perimeter of the triangle is 18 cm. The area (in cm²) of the triangle is:

(a) 9

(b) 36

(c) $\sqrt{42}$

(d) $3\sqrt{15}$

Q97. Walking at 6/7th of his usual speed a man is 25 minutes late. His usual time to cover this distance is :

(a) 2 hours 30 minutes

(b) 2 hours 15 minutes

(c) 2 hours 25 minutes

(d) 2 hours 10 minutes

Q98. Two pipes can fill a tank in 15 min. and 18 min. respectively and a waste pipe can empty 2 gallons per minute. All the three pipes working together can fill the tank in 10 minutes. The capacity of the tank is:

(a) 120 gallons

(b) 180 gallons

(c) 90 gallons

(d) 300 gallons

Q99. A sum of money is to be distributed among A, B, C, D in the proportion of 6 : 3 : 5 : 4. If C gets Rs. 1200 more than D, what is B's share?

(a) Rs. 1200

(b) Rs. 2000

(c) Rs. 3600

(d) Rs. 2500

Q100. Solve $\sqrt{8 + \sqrt{57 + \sqrt{38 + \sqrt{108 + \sqrt{169}}}}}$

(a) 6

(b) 4

(c) 8

(d) 10

S1. Ans.(b)

Sol. On selling the mixture at 99.6 Rs/kg, he gains 20%

⇒ fraction value of 20% = $\frac{1}{5}$

If cost price is 5 units, selling price is 6 units

ATQ,

6 units → Rs. 99.6

5 units → $\frac{99.6}{6} \times 5$ = Rs. 83

Tea 1   Tea 2
  72   90

           83

   7   11
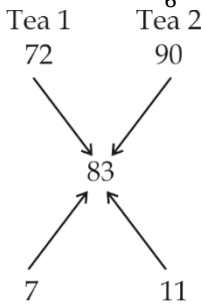
Ratio = 7 : 11

S2. Ans.(a)

Sol. Sum of interior angles = (n – 2)180°

Where n = number of sides

(6 – 2)180° = 720°

S3. Ans.(b)

Sol. For the two given fractions of the form $\frac{a}{b}$ & $\frac{c}{d}$

If ad > bc then $\frac{a}{b} > \frac{c}{d}$

If ad < bc then $\frac{a}{b} < \frac{c}{d}$

Applying the same

$\frac{3}{8} \times \frac{5}{12}$ = 36 < 40

Hence,

$\frac{5}{12} > \frac{3}{8}$

Similarly, applying the same in other fractions, we get

$\frac{3}{8} < \frac{5}{12} < \frac{16}{29} < \frac{3}{4} < \frac{13}{16}$

S4. Ans.(d)

Sol. Ratio of the sides = 3 : 4 : 5

(21 : 28 : 35)

It is a right-angle triangle which is having 21 and 28 as its base and perpendicular

Area = $\frac{1}{2}$ base × height

$\frac{1}{2} \times 21 \times 28$ = 294 m²

S5. Ans.(c)

Sol. 1ˢᵗ article was sold at the profit of $37.5\% = \frac{3}{8}$ [Fractional value]

⇒ If cost price = 8 units

Selling price = 11 units

Second article was sold at a loss of $8.33\% = \frac{1}{12}$ [Fractional value]

⇒ If CP = 12 units

SP = 11 units

	CP	SP
Article I	8	11
Article II	12	11
Total	20	22

Total CP = 20 units

Total SP = 22 units

ATQ,

$(22 − 20)$ units = Rs 8634

1 unit $= \frac{8634}{2}$

11 units $= \frac{8634}{2} \times 11$

= 47487 Rs.

S6. Ans.(c)

Sol. Let 'x' be the required pumps, then

ATQ,

12 × 6 × 15 = 9 × 12 × x

x = 10

S7. Ans.(a)

Sol. Let the present age of Raju = x

And present age of his son = y

ATQ,

$(x − 2) = 3(y − 2)$ …(i)

And,

$2(x + 2) = 5 (y + 2)$ …(ii)

Solving (i) and (ii) we get

y = 14 yrs

x = 38 yrs

Difference in their ages = 38 – 14 = 24 yrs

S8. Ans.(c)

Sol. $x^2 + 9y^2 = 6xy$

Dividing whole by y^2 we get

$\left(\frac{x}{y}\right)^2 + 9 = \frac{6x}{y}$

Let

$\frac{x}{y} = z$

$z^2 - 6z + 9 = 0$

$(z - 3)^2 = 0$

$\frac{x}{y} = \frac{3}{1}$

S9. Ans.(a)

Sol. $\sqrt{0.09} = 0.3$

S10. Ans.(c)

Sol. a : b = 6 : 7

b : c = 8 : 9

⇒ a : b : c = 48 : 56 : 63

Now,

(a + c) : (c – a) = {(48 + 63) : (63 − 48)}

= 111 : 15

= 37 : 5
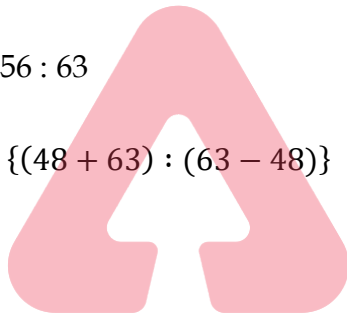
S11. Ans.(b)

Sol. $2 \times \frac{18}{5} = \frac{36}{5}$ km/h = 7.2 km/hr

S12. Ans.(b)

Sol. $(512)^{-\frac{2}{9}} = \frac{1}{(512)^{\frac{2}{9}}} = \frac{1}{(2)^{\frac{9 \times 2}{9}}} = \frac{1}{4}$

S13. Ans.(d)

Sol. $\frac{0.2}{100} \times x = 12$

x = 6000

S14. Ans.(c)

Sol. Let the average of two quantities be x

Then as per question,

$6 = \frac{3 \times 4 + 2 \times x}{5}$

x = 9

S15. Ans.(d)
Sol. LCM of 8, 6 = 24
8 × 6 × x = 24 × 24 [x = Number of tiles]
x = 12

S16. Ans.(d)
Sol. If a money doubles in T yrs, it becomes thrice in [3- 1]T yrs and four fold in [4 - 1]T yrs
⇒ [4 - 1]7 = 21 yrs

S17. Ans.(b)
Sol. Surface area, S = 726m², Volume V = ?
$$V = \left(\sqrt{\frac{S}{6}}\right)^3$$
V = 1331m³

S18. Ans.(b)
Sol. LCM of 20, 25 = 100 units
CP of 20 pencils = 100 units
CP of 1 pencil = 5 units
SP of 25 pencils = 100 units
SP OF 1 Pencil = 4 units
$Loss = \frac{CP-SP}{CP} \times 100$
$= \frac{5-4}{5} \times 100 = 20\%$

S19. Ans.(b)
Sol. Let T = 100
ATQ,
S = 150
S + T = 250
$\% \text{ less} = \frac{(S+T)-T}{S+T} \times 100 = 60\%$

S20. Ans.(b)
Sol.

	Days	Capacity
X	12	1
	12	
Y	6	2
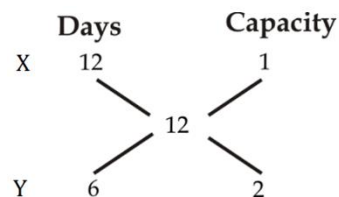
Required time $= \frac{12}{(1+2)} = 4$ days
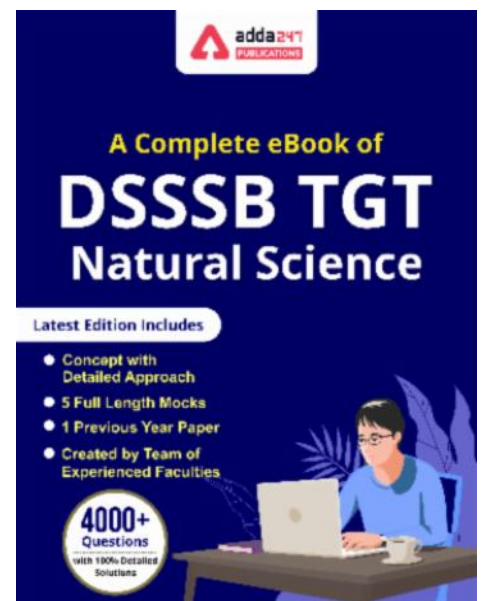
S21. Ans.(d)
Sol. Total distance covered by train in 50 seconds
$= 90 \times \frac{5}{18} \times 50 = 1250$ meter
Length of the train = 800 meter
So, Length of bridge = 1250 – 800 = 450

S22. Ans.(c)
Sol. Remainder in $\frac{550 \times 651 \times 662}{7} = \frac{4 \times 0 \times 4}{7} = 0$

S23. Ans.(a)
Sol. $(11.998)^3 = 1727.136$ {As 12³ = 1728}

S24. Ans.(a)
Sol. Length of diagonal = 26 cm
Breadth = 10cm
We have,
$\sqrt{\ell^2 + 10^2} = 26$
$\Rightarrow \ell^2 + 100 = 676$
$\ell = 24$ cm
Perimeter = 2 (ℓ +b) = 2 (24 + 10) = 68 cm

S25. Ans.(c)
Sol. $-\frac{5x}{3} + 2 = x - 6$
Or, –5x + 6 = 3x – 18
8x = 24
x = 3

S26. Ans.(b)
Sol. $(6 \times 6)^3 \div (36 \times 6)^3 \times (1296)^2 = 6^x$
$6^6 \div 6^9 \times 6^8 = 6^x$
$6^{6-9+8} = 6^x$
$6^5 = 6^x$
$\Rightarrow x = 5$

S27. Ans.(a)
Sol. Runs scored by boundaries = 33 × 4 + 9 × 6
= 132 + 54 = 186
So, runs scored by running = 264 – 186 = 78
Now,
Required % $= \frac{78}{264} \times 100 = 29.54\%$
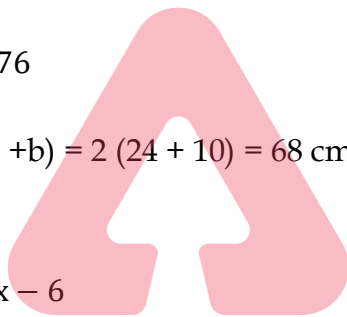
S28. Ans.(b)
Sol. $x = (3^{7000} + \frac{1}{3^{7000}})$ and $y = \left(3^{7000} - \frac{1}{3^{7000}}\right)$
Now,
$x^2 - y^2 = 3^{14000} + \frac{1}{3^{14000}} + 2 - \left(3^{14000} + \frac{1}{3^{14000}} - 2\right)$
$= 4$

S29. Ans.(d)
Sol. $\frac{\sqrt{360} \times \sqrt{90}}{\sqrt{324}}$
$= \frac{6\sqrt{10} \times 3\sqrt{10}}{18} = 10$

S30. Ans.(b)
Sol. ATQ,
$\left(-\frac{3}{4}\right) - x = \left(-\frac{4}{5}\right) + x$
$2x = -\frac{3}{4} + \frac{4}{5}$
x = 0.025

S31. Ans.(d)
Sol. Let quantity of 1 bottle =x
Then, total quantity for party = 30x
New, quantity $= \frac{7x}{10}$
So,
Required bottles $= \frac{30x}{\left(\frac{7x}{10}\right)} = \frac{300}{7}$
= 42.85

S32. Ans.(c)
Sol. Let numbers are 27a and 27b
ATQ,
27a × 27b = 2187
ab = 3
Now, co-primes of 3 are (1, 3)
so, the required numbers 27 and 81.
∴ Greater number = 81

S33. Ans.(c)
Sol. 2r + πr = 18
$r\left(2 + \frac{22}{7}\right) = 18$
r =3.5
Now,
Area of semi-circle $= \frac{\pi r^2}{2}$
$= \frac{1}{2} \times \frac{22}{7} \times 3.5 \times 3.5$
= 19.25 cm²

S34. Ans.(a)

Sol. Speed $= \left(51 \times \frac{5}{18}\right) = \frac{85}{6}$ m/s

Time = 36 sec

Let, length of platform is 'x' metre

So, $\frac{180+x}{36} = \frac{85}{6}$

180 + x = 510

x = 330 m

S35. Ans.(b)

Sol. Let three numbers are x, x+ 2, x+ 4

ATQ,

3(x + 2) = 2 (x + 4) + 9

x = 11

S36. Ans.(a)

Sol. In 100 litres mixture,

Milk = 60 litres
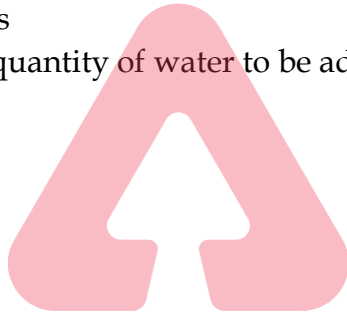
Water = 40 litres

Now, 'x' is the quantity of water to be added

$\frac{60}{40+x} = \frac{2}{3}$

180 = 80 + 2x

$\Rightarrow$ x = 50 litres

S37. Ans.(b)

Sol. Let, downward and upward speed be 'u' and 'v' resp.

ATQ,

$\frac{30}{v} + \frac{42}{u} = 8$ ...(i)

$\frac{42}{v} + \frac{56}{u} = 11$ ...(ii)

From (i) and (ii) we get

v = 6

$u = 14$

So, speed of boat $= \frac{u+v}{2} = \frac{14+6}{2} = 10$ km/hr

S38. Ans.(a)

Sol.

Anu ——— 8 ③
                        > 24
Anu+ Manu ——— 6 ④
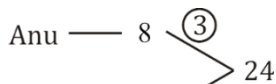
Efficiency of Manu = 4 – 3 = 1

So,

Share of Manu $= \frac{1}{4} \times 400 = Rs$ 100

S39. Ans.(d)
Sol. Let breadth = 'b' m
Then, length = (b + 20) m
Perimeter = $\left(\frac{3500}{17.50}\right) = 200$m
Now,
2[(b+ 20) + b] = 200
b = 40m
And, length =b + 20 = 40 + 20 = 60m

S40. Ans.(b)
Sol. Mother's age when Sanjay's sister born = 26 yrs
Father's age when Sanjay's sister born = (28 + 3) = 31 yrs
So,
Required difference = (31 – 26) = 5 yrs

S41. Ans.(a)
Sol. Let, speed of Stefan = 'S' km/hr
Speed of Damon = 'D' km/hr
ATQ,
$\frac{60}{S} - \frac{60}{D} = 2$ ..(i)
$\frac{60}{D} - \frac{60}{2S} = 1$ ..(ii)
From (i) and (ii), we get
Speed of Stefan, S = 10 km/hr

S42. Ans.(c)
Sol. x + y = -3 + 4 = 1
-xy = -(-3×4) = 12
$\frac{x}{y} = -\frac{3}{4} = -0.75$
$y - 1 = 4 - 1 = 3$
So,
$\frac{x}{y}$ is smallest

S43. Ans.(c)
Sol. Let C.P of AC = x
ATQ,
$\frac{111x}{100} - \frac{107x}{100} = 960$
4x = 960 × 100
⇒ C.P of AC = Rs.24000

S44. Ans.(a)
Sol. Let, sum = P
ATQ,
$$\frac{P \times 8 \times 7}{100} - \frac{P \times 7 \times 5}{100} = 630$$
$$\frac{56P}{100} - \frac{35P}{100} = 630$$
$$\Rightarrow P = Rs\ 3000$$

S45. Ans.(b)
Sol. $(a + b + c)^2 = a^2 + b^2 + c^2 + 2(ab + bc + ca)$
$(7)^2 = a^2 + b^2 + c^2 + 2(24)$
$\Rightarrow a^2 + b^2 + c^2 = 49 - 48$
$= 1$

S46. Ans.(d)
Sol. Let the sum of new students = x yrs
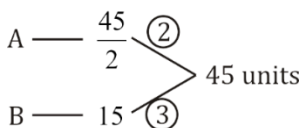ATQ,
$[(25 \times 6) - 35 + x] = 24 \times 7$
$115 + x = 168$
$x = 53$ yrs

S47. Ans.(b)
Sol. $\left(\frac{48}{100} \times 2500\right) - \left(\frac{343 \times 8}{14}\right) - \left(\frac{15}{100} \times \frac{80}{3}\right)$
= 1200 – 196 – 4
= 1200 – 200 = 1000

S48. Ans.(b)
Sol.

Now, B is opened all the time. So, B filled cistern in 10 min = 10 × 3 = 30 units
Remaining = 45 – 30 = 15 units, which are filled by pipe A.
So, Pipe A off after = $\frac{15}{2}$ = 7.5 min

S49. Ans.(a)
Sol. Let the third number = 100
Then, first number = 175
Second number = 140
Now,
Required % = $\frac{175 - 140}{140} \times 100$
$= \frac{35}{140} \times 100 = 25\%$

S50. Ans.(c)

Sol. Let, prices of items are 4x, 6x and 9x

ATQ,

4x + 6x + 9x = 19000 × 3

19x = 19000 × 3

x = 3000

Now,

Price of the expensive item = 9x

= 9 × 3000 = Rs. 27000

S51. Ans.(b)

Sol. $\sqrt{2 + \sqrt{139 + \sqrt{12 + \sqrt{164 + \sqrt{21 + \sqrt{16}}}}}}$

$= \sqrt{2 + \sqrt{139 + \sqrt{12 + \sqrt{164 + \sqrt{21 + 4}}}}}$

$= \sqrt{2 + \sqrt{139 + \sqrt{12 + \sqrt{169}}}}$

$= \sqrt{2 + \sqrt{139 + 5}}$

$= \sqrt{2 + 12}$

$= \sqrt{14}$

S52. Ans.(a)

Sol.

2nd December 2018 = Sunday

2nd December 2019 = Monday

2nd December $\underline{2020}$ = Wednesday $\Big)$ +2

$\qquad\qquad\downarrow$

$\qquad$ leap year

S53. Ans.(a)

Sol. $(x + y + z)^2 = x^2 + y^2 + z^2 + 2(xy + yz + zx)$

$64 = x^2 + y^2 + z^2 + 2 × 20$

$x^2 + y^2 + z^2 = 64 - 40 = 24$

S54. Ans.(d)
Sol.

1st	2nd	3rd
150	100	50
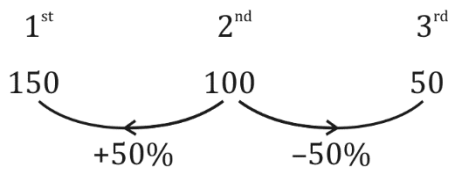
+50%　　　−50%

ATQ,
$$\frac{150-50}{100} = \frac{100}{100} = 1:1$$

S55. Ans.(c)
Sol. Let the required number be 'x'
ATQ,
$$\frac{8+x}{5+x} = \frac{4}{3}$$
24 + 3x = 20 + 4x
$\boxed{x = 4}$

S56. Ans.(a)
Sol. Since it is a triplet, So
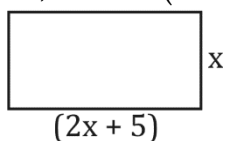9^2 + 40^2 = 41^2
∴ $\sqrt{x}$ = 2
∴ x = 4

S57. Ans.(b)
Sol. In these type of cases, there is always a loss occurred.
So, Loss % = $\frac{(40)^2}{100} = \frac{1600}{100} = 16\%$

S58. Ans.(b)
Sol. Let breadth = x and length = 2x + 5
So, Area = (2x + 5) × x

(2x + 5)

ATQ,
75 = 2x^2 + 5x
2x^2 + 5x − 75 = 0
2x^2 + 15x − 10x − 75 = 0
x (2x + 15) − 5 (2x + 15) = 0
(x − 5) (2x + 15) = 0
∴ x = 5
∴ B = 5, L = 15
∴ Perimeter = 2 (15 +5) = 40 m

S59. Ans.(c)

Sol. % increase in area = $11 + 11 + \frac{11 \times 11}{100}$

= 22 + 1.21

= 23.21%

S60. Ans.(c)

Sol. If a + b + c = 0

Then $a^3 + b^3 + c^3 = 3abc$

∵ 27 + 25 – 52 = 0

∴ $27^3 + 25^3 – 52^3 + 105300$

= –105300 + 105300

= 0

S61. Ans.(d)

Sol. Let the number be 'y'

Dividend = Divisor × Quotient + Rem

228 = y × Q + 18

210 = y × Q

$y = \frac{210}{Q}$

For maximum value of y and for 2 digit number, Q should be lowest. So, Q should be 3.

∴ Q = 3

∴ y = $\frac{210}{3}$ = 70

∴ The required number = 70
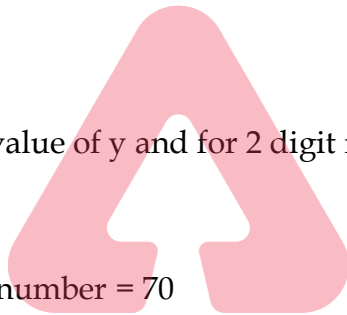
S62. Ans.(b)

Sol. Sum of five new numbers = 55 × 45 – 50 × 40

= 2475 – 2000

= 475

∴ Average = $\frac{475}{5}$ = 95

S63. Ans.(c)

Sol. Number of diagonals = $\frac{n(n-3)}{2}$

$54 = \frac{n(n-3)}{2}$

$108 = n^2 – 3n$

$n^2 – 3n – 108 = 0$

$n^2 – 12n + 9n – 108 = 0$

n (n – 12) + 9 (n – 12) = 0

(n – 12) (n + 9) = 0

∴ n = 12

S64. Ans.(b)

Sol. Water (in litres) fall into the sea in 1 minute

$= 4 \times 50 \times 6 \times \frac{1000}{60}$ m³

$= 20000$ m³

$= 20000 \times 10^3$ litres $[\because 1m^3 = 1000$ litres$]$

$= 2 \times 10^7$ litres

S65. Ans.(a)

Sol. $400000 \times \frac{95}{100} \times \frac{95}{100} \times \frac{95}{100}$

$= 342950$

S66. Ans.(d)

Sol. $CI - SI = \frac{PR^2(300+R)}{100^3}$

$96 = \frac{P \times 20 \times 20 \times 320}{100 \times 100 \times 100}$

$P = 750$

S67. Ans.(b)

Sol. $x : \frac{4}{5} = \frac{1}{8} : \frac{11}{13}$

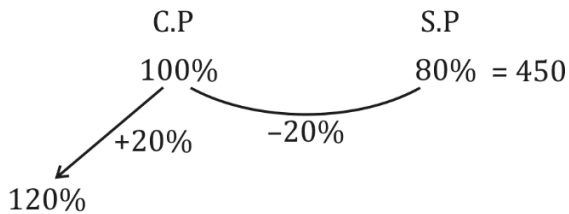$x \times \frac{11}{13} = \frac{1}{8} \times \frac{4}{5}$

$x = \frac{1}{10} \times \frac{13}{11}$

$x = \frac{13}{110}$

S68. Ans.(b)

Sol.

$$\begin{array}{cc} \text{C.P} & \text{S.P} \\ 100\% & 80\% = 450 \end{array}$$

$+20\%$ -20%

120%

80% = 450

$100\% = \frac{450}{80} \times 100$

$\therefore 120\% = \frac{450}{80} \times \frac{100}{100} \times 120$

120% = 675

$\therefore$ Kishan sells the cap at Rs. 675 to gain 20% profit

S69. Ans.(a)

Sol. $(a + b – c)^2 – (a – b + c)^2$

$\Rightarrow a^2 + b^2 + c^2 + 2ab – 2bc – 2ac – a^2 – b^2 – c^2 + 2ab + 2bc – 2ac$

$= 4ab – 4ac$

$= 4a (b – c)$

S70. Ans.(a)

Sol. $N_1 + N_2 = 40$

$N_1 – N_2 = 8$

$\therefore N_1 = 24, N_2 = 16$

$\therefore \text{LCM} = \dfrac{\text{Product of Numbers}}{\text{HCF}}$

$= \dfrac{24 \times 16}{8}$

$= 48$

S71. Ans.(d)

Sol.
$$\begin{array}{ccc} \text{Amit} & & \text{Dev} \\ 2 & : & 1 \end{array}$$

$\therefore$ Total work $= (2 + 1) \times 12 = 36$

$\therefore$ Amit alone can do it in $\dfrac{36}{2} = 18$ days

S72. Ans.(a)

Sol. Total distance $= 15 \times 4$ km

$\therefore$ Required Speed $= \dfrac{15 \times 4 \times 3}{5}$

$= 36$ km/hr

S73. Ans.(a)

Sol. Let the numbers be

$(n – 2), n, (n + 2), (n + 4)$

Where n is even

$\therefore n – 2 + n + 2 + n + 4 + n = 748$

$4n + 4 = 748$

$4n = 744$

$\therefore n = 186$

$\therefore$ Smallest one $= 186 – 2 = 184$

S74. Ans.(a)

Sol. $\left(1 - \dfrac{1}{3}\right)\left(1 - \dfrac{1}{4}\right)\left(1 - \dfrac{1}{5}\right) \ldots \ldots \ldots \left(1 - \dfrac{1}{99}\right)\left(1 - \dfrac{1}{100}\right)$

$= \dfrac{2}{3} \times \dfrac{3}{4} \times \dfrac{4}{5} \times \ldots \ldots \ldots \dfrac{98}{99} \times \dfrac{99}{100}$

$= \dfrac{1}{50}$

S75. Ans.(d)
Sol. LCM of 2, 3, 8, 9 = 72

$2^{\frac{1}{2}} \times \frac{36}{36} = 2^{\frac{36}{72}} = (2^3)^{\frac{12}{72}} = (8)^{\frac{12}{72}}$

$3^{\frac{1}{3}} \times \frac{24}{24} = 3^{\frac{24}{72}} = (3^2)^{\frac{12}{72}} = (9)^{\frac{12}{72}}$

$8^{\frac{1}{8}} \times \frac{9}{9} = 8^{\frac{9}{72}} = (8)^{\frac{9}{72}}$

$9^{\frac{1}{9}} \times \frac{8}{8} = 9^{\frac{8}{72}} = 9^{\frac{8}{72}}$

Here $(9)^{\frac{12}{72}}$ is greatest

∴ $3^{\frac{1}{3}}$ is greatest

S76. Ans.(a)
Sol. Applying replacing formula,

Amount of milk after 3 replacements = $\left[100\left(1 - \frac{20}{100}\right)^3\right]$

$= 100 \times \frac{4}{5} \times \frac{4}{5} \times \frac{4}{5}$

= 51.2 liters

S77. Ans.(b)
Sol. Clock gains in 24 hrs. = 18 min.
Clock gains in 20 hrs. (Time between 12 Noon to 8AM)

$= \frac{18}{24} \times 20$

= 15 min
So, it shows 8:15 AM
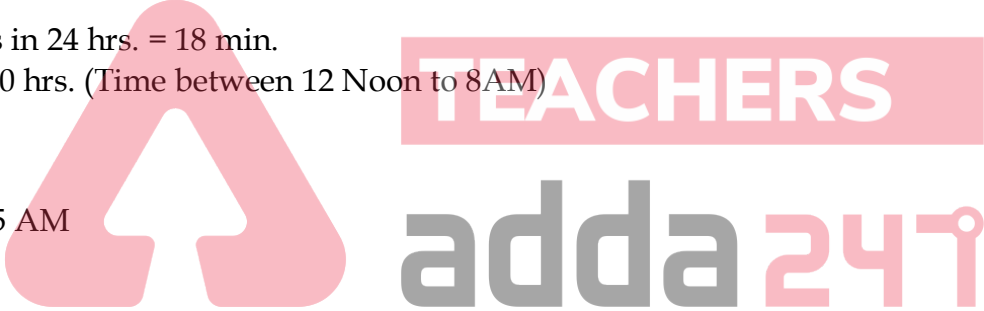
S78. Ans.(c)
Sol. Fraction 40% = $\frac{2}{5}$

	Perimeter (2πr)	Area (πr²)
Before	5	25
Now	3	9
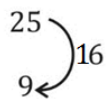
Req. % = $\frac{16}{25} \times 100$

= 64%

S79. Ans.(d)
Sol. Let larger and smaller number be x and y resp.
ATQ,
x – y = 2736……(i)
And,
x = 12y + 30
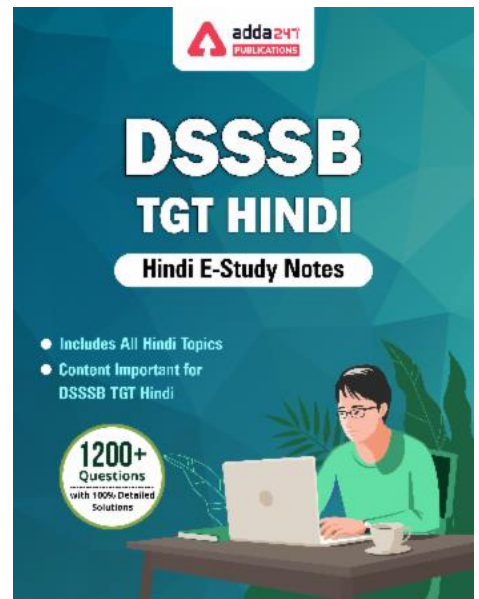x – 12 y = 30 ………(ii)
from (i) and (ii), we get
Smaller number, y = 246

S80. Ans.(a)

Sol. $\left[\left(\sqrt[7]{x^{-2/7}}\right)^{\frac{-7}{2}}\right]^7$

$= x^{\left[\frac{\left(-\frac{2}{7}\right)\left(-\frac{7}{2}\right)7}{7}\right]}$

$= x$

S81. Ans.(b)

Sol. As 3 is HCF, so let numbers are 3a and 3b

ATQ,

3a + 3b = 36

a + b = 12

LCM of 3a and 3b is 105

$\Rightarrow$ 3ab = 105 ....(2)
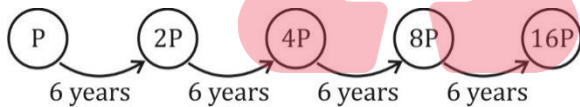
Divide (i) by (ii), we get

$\frac{a+b}{3ab} = \frac{12}{105}$

$\Rightarrow \frac{1}{3a} + \frac{1}{3b} = \frac{4}{35}$

S82. Ans.(c)

Sol.

So, In 24 years, sum will be 16 times of itself.

∴ Req. sum = 16 × 13000 = Rs. 208000

S83. Ans.(d)

Sol. ATQ,

$πr^2h = \frac{4}{3}πr^3$

$π × \frac{1}{10} × \frac{1}{10} × 3600 = \frac{4}{3} × π × r^3$

$\Rightarrow$ r = 3 cm.

S84. Ans.(b)

Sol. SP × 950 = CP × 1000

$\frac{SP}{CP} = \frac{20}{19}$

Profit = 1 unit

Profit % $= \frac{1}{19} × 100 = 5\frac{5}{19}\%$

S85. Ans.(a)
Sol. Speed of Atul = $36 \times \frac{5}{18}$ = 10 m/s

Time taken by Atul = $\frac{250}{10}$ = 25sec.

Lovnish is defeated by 5 sec, so time taken by her to complete the race = 25 + 5 = 30 sec
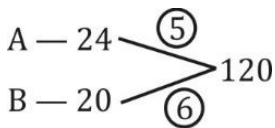Now,

Speed of Lovnish = $\frac{250}{30}$ m/s

= $\frac{25}{3} \times \frac{18}{5}$ = 30 km/hr

S86. Ans.(c)
Sol.

B worked for 15 days, so completed 6 × 15 = 90 units of work.

Now, Remaining work (120– 90 = 30) completed by A in = $\frac{30}{5}$ = 6 days
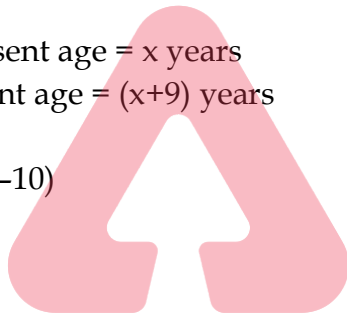
S87. Ans.(d)
Sol. Let B's present age = x years
Then, A's present age = (x+9) years
ATQ,
(x+9) + 10 = 2(x–10)
x + 19 = 2x – 20
$\Rightarrow$ x = 39 years

S88. Ans.(b)
Sol. Volume of cone = $\frac{1}{3}\pi r^2 h$

Volume of hemisphere = $\frac{2}{3}\pi r^3$

We know, height of hemisphere = radius of its base.
So,
ATQ,
$\frac{1}{3}\pi r^2 h = \frac{2}{3}\pi r^3$

$\Rightarrow \frac{h}{r} = \frac{2}{1}$

S89. Ans.(d)
Sol. Relative speed = (64+44) = 108 km/hr

= $108 \times \frac{5}{18}$ = 30 m/s

We are calculating time taken by slower train to pass the driver of faster train.
Hence, distance = length of the slower train = 420 m
So,

Time = $\frac{420}{30}$ = 14 seconds

S90. Ans.(c)

Sol. $5\frac{1}{2} + \left(2 \div 3\frac{3}{4}\right) - 4\frac{2}{15}$

$= \frac{11}{2} + \frac{8}{15} - \frac{62}{15}$

$= \frac{165 + 16 - 124}{30} = \frac{57}{30}$

S91. Ans.(a)

Sol. Let students in section A = x

And, students in section B = y

ATQ,

78.5 x + 71y = 75 (x+y)

78.5x – 75x = 75y – 71 y

$\Rightarrow \frac{x}{y} = \frac{4}{3.5} = \frac{8}{7}$

S92. Ans.(a)

Sol. Let, no. of workers in factory = 100 units

Then, no. of workers above 30 years = 60 units

Now ATQ,

No. of males above 30 years = $60 \times \frac{75}{100}$ = 45 units

So,

45 units → 1350

Then, 100 units → $\frac{1350}{45} \times 100 = 3000$

S93. Ans.(d)

Sol. $\sqrt[3]{p^3 + 3p^2 + 3p + 1}$

$= \sqrt[3]{(p + 1)^3}$

$= p + 1 = 114 + 1 = 115$

S94. Ans.(b)

Sol. Let speed of stream = 'y' km/hr

ATQ,

$\frac{30}{20-y} + \frac{30}{20+y} = 4$

$\frac{600 + 30y + 600 - 30y}{400 - y^2} = 4$

$\frac{1200}{400 - y^2} = 4$

$\Rightarrow y = 10$ km/hr

S95. Ans.(c)

Sol. $\sqrt{1 + \frac{x}{9}} = \frac{13}{3}$

Squaring both sides, we get

$\left(1 + \frac{x}{9}\right) = \frac{169}{9}$

$9 + x = 169$

$\Rightarrow x = 160$

S96. Ans.(d)

Sol. Let the sides of triangle be 2x, 3x and 4x

ATQ,

$2x + 3x + 4x = 18$

$\Rightarrow x = 2$

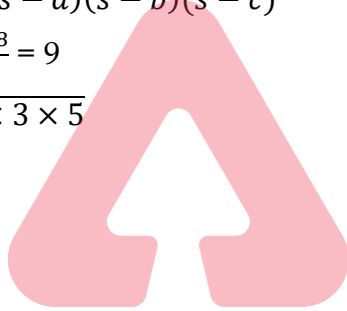$\therefore$ Sides are 4 cm, 6 cm and 8 cm

Now,

Area of $\Delta = \sqrt{s(s-a)(s-b)(s-c)}$

Where, $s = \frac{4+6+8}{2} = 9$

Area $= \sqrt{9 \times 1 \times 3 \times 5}$

$= 3\sqrt{15}$ cm²

S97. Ans.(a)
Sol.

So, usual time taken = 25 × 6 = 150 min.

= 2 hours 30 minutes

S98. Ans.(c)

Sol. Work done by waste pipe in 1 min. $= \frac{1}{10} - \left(\frac{1}{15} + \frac{1}{18}\right)$

$= \frac{1}{10} - \frac{11}{90}$

$= \frac{-1}{45}$ [– ve sign means emptying]

$\therefore$ Volume of $\frac{1}{45}$ part = 2 gallons

Volume of whole tank = (2× 45) = 90 gallons

S99. Ans.(c)

Sol. Let the shares of A, B, C and D be 6x, 3x, 5x and 4x

ATQ,

5x – 4x = 1200

x = 1200

So,

B's share = 3 × 1200 = Rs.3600

S100. Ans.(b)

Sol. $\sqrt{8+\sqrt{57+\sqrt{38+\sqrt{108+\sqrt{169}}}}}$

$=\sqrt{8+\sqrt{57+\sqrt{38+\sqrt{121}}}}$

$=\sqrt{8+\sqrt{57+\sqrt{38+11}}}$

$=\sqrt{8+\sqrt{57+\sqrt{49}}}$
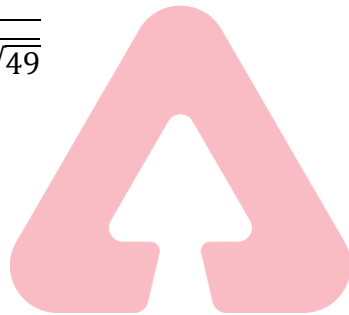
$=\sqrt{8+\sqrt{57+7}}$

$=\sqrt{8+\sqrt{64}}$

$=\sqrt{8+8}$

$=\sqrt{16}=4$