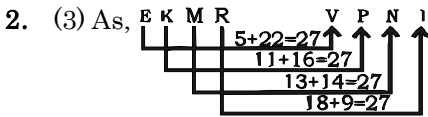


ANSWER SET - 64

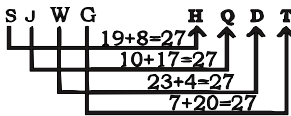
- (4) 2. (3) 3. (3) 4. (2) 5. (1)
- (4) 7. (1) 8. (3) 9. (2) 10. (2)
- (3) 12. (3) 13. (1) 14. (3) 15. (1)
- (1) 17. (2) 18. (1) 19. (1) 20. (3)
- (3) 22. (4) 23. (4) 24. (3) 25. (2)
- (2) 27. (3) 28. (1) 29. (2) 30. (3)
- (3) 32. (4) 33. (1) 34. (3) 35. (1)
- (4) 37. (2) 38. (2) 39. (3) 40. (3)
- (2) 42. (1) 43. (2) 44. (3) 45. (1)
- (2) 47. (4) 48. (1) 49. (1) 50. (3)
- (3) 52. (2) 53. (2) 54. (2) 55. (3)
- (2) 57. (4) 58. (2) 59. (1) 60. (3)
- (2) 62. (2) 63. (2) 64. (2) 65. (3)
- (2) 67. (2) 68. (3) 69. (1) 70. (2)
- (2) 72. (3) 73. (1) 74. (4) 75. (3)
- (2) 77. (1) 78. (2) 79. (1) 80. (1)
- (2) 82. (4) 83. (3) 84. (3) 85. (4)
- (4) 87. (3) 88. (1) 89. (2) 90. (3)
- (3) 92. (3) 93. (3) 94. (3) 95. (4)
- (1) 97. (2) 98. (4) 99. (4) 100. (1)

EXPLANATION - 64

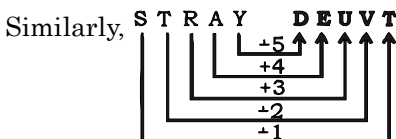
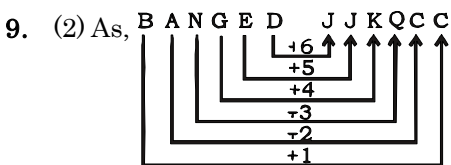
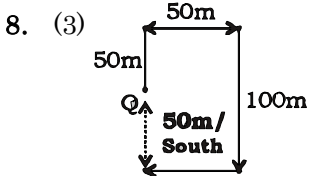
- (4) Woodcutter works with Axe. Similarly, Tailors works with Needle.



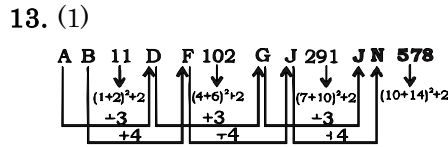
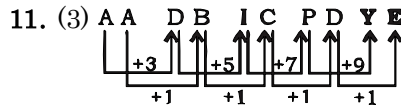
Similarly,



- (3) $(12)^2 - 2 = 142$
Similarly, $(17)^2 - 2 = 287$
- (2) Except Option B, in all others, 1st belongs to 2nd.
- (1) $\begin{matrix} Y & V & T & P & M & J \\ \downarrow & \downarrow & \downarrow & \downarrow & \downarrow & \downarrow \\ I & F & C & G & D & A \end{matrix}$
 $\begin{matrix} \downarrow & \downarrow & \downarrow & \downarrow & \downarrow & \downarrow \\ -3 & -3 & -3 & -3 & -3 & -3 \end{matrix}$
- (4) Except 83 - 97, all others are two continuous prime numbers.
- (1) Beep \rightarrow Boxed \rightarrow Boxer \rightarrow Brain \rightarrow Brand



- (2)



- (3) $32 \times 2 + 8 \neq 14 \div 4$
 $32 + 2 + 8 \neq 14 \times 4$
 $32 \times 2 - 8 = 14 \times 4$
 $32 \div 2 \times 8 \neq 4 \times 4$
- (1) $24 \div 8 \times 9 + 9 - 10 = 26$
 $24 \times 8 \div 9 - 9 + 10 \neq 26$
 $24 + 8 \div 9 \times 9 - 10 \neq 26$
 $24 \times 8 - 9 + 9 \div 10 \neq 26$

- (1) $3 + 3 + 3 + 5 = 14$
 $6 + 2 + 2 + 4 = 14$
 $5 + 5 + 3 + 1 = 14$
- (2) $3 + 4 + (4)^2 = 23$
 $4 + 6 + (3)^2 = 19$
 $2 + 5 + (3)^2 = 16$
- (1) $3 + 2 + 8 + 6 + 4 + 2 = 25$
 $4 + 4 + 4 + 5 + 3 + 5 = 25$
 $9 + 1 + 9 + 2 + 3 + 1 = 25$

- (1)
- (3)
- (3)
- (4)
- (4)
- (3)
- (2)
- (3) ATQ,

$$\sqrt{97+56\sqrt{3}} = \sqrt{49+48+2 \times 7 \times 4\sqrt{3}}$$

$$= \sqrt{(7+4\sqrt{3})^2} = \pm(7+4\sqrt{3})^2$$

$$\sqrt{97+56\sqrt{3}} = 7+4\sqrt{3} \quad \text{or}$$

$$\sqrt{97+56\sqrt{3}} = -7-4\sqrt{3}$$

- (2) ATQ,

$$\sqrt{x} = \sqrt{9+4\sqrt{5}} = \sqrt{(2+\sqrt{5})^2}$$

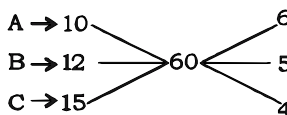
$$\Rightarrow \sqrt{x} = 2+\sqrt{5}$$

Now,

$$\sqrt{x} + \frac{1}{\sqrt{x}} = 2+\sqrt{5} + \frac{(2+\sqrt{5})}{4-5}$$

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

- (2) ATQ,



$$\text{Time taken by them} = \frac{60+5 \times 3}{6+5+4}$$

= 5 days

- (2) If all books are bought at minimum cost price and are sold at maximum selling price, then there will be maximum profit. Hence, Maximum profit = $375 \times 25 - 200 \times 25 = 175 \times 25 = ₹ 4375$

- (3) ATQ,
Cost Price

$$= 1428 \times \frac{100}{100-20} \times \frac{100}{(100-12.5)}$$

= ₹ 2040

- (2) ATQ,

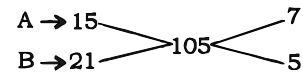
$$236.544 = P \times \left(\frac{8}{100}\right)^2 \left(\frac{308}{100}\right)$$

P = 12000

Hence, Required amount

= ₹ 12000

- (4) ATQ,



work done by A and B in 2 hours = $7 + 5 = 12$

So, work done by A and B in such pairs = $12 \times 8 = 96$

Remaining work = $105 - 96 = 9$

Remaining done after B = $9 - 5 = 4$

\therefore Required days = $8 \times 2 + 1 + \frac{4}{7}$

= $17\frac{4}{7}$ days

- (2) ATQ,

Let the quantity of mixture

= LCM of (11, 11, 13) = 143

then, Water : Wine (in large Vessel)

$91 + 78 + 72 : 52 + 65 + 66$

82 : 61

- (1) ATQ,

The ratio of time = A : B : C

$$\frac{1}{2} : \frac{1}{4} : \frac{1}{5}$$

= **10 : 5 : 4**

- (3) ATQ,

Required distance

$$= (50 + 62) \times \frac{5}{18} \times 18$$

= 575m = **.575 km**

- (2) ATQ,

Let the distance = LCM of (60, 80 and 100) = 1200

then, Time for one-third

$$= \frac{400}{60} = 6\frac{2}{3} \text{ hr}$$

Time for one-fourth

$$= \frac{300}{80} = 3\frac{3}{4} \text{ hr}$$

Time for remaining

$$= \frac{1200 - 400 - 300}{100} =$$

5hr Hence, Average speed

$$= \frac{1200}{\frac{20}{3} + \frac{15}{4} + 5}$$

$$= \frac{1200 \times 12}{185} = 77\frac{31}{37} \text{ kmph}$$

62. (2) ATQ,

$$2\pi r = 176$$

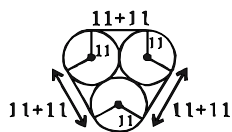
$$\Rightarrow r = 28 \text{ cm}$$

$$\text{then, } l = \sqrt{96^2 + 28^2} = 100 \text{ cm}$$

Hence, Total surface area

$$= \frac{22}{7} \times 28 \times 128 = 11264 \text{ cm}^2$$

63. (2)



Required length

$$= 22 \times 3 + 3 \times \frac{120^\circ}{360} \times 2 \times \pi \times 11$$

$$= 66 + 22\pi$$

64. (2) ATQ,

$$x + \frac{1}{x} = 7$$

square on both sides,

$$\Rightarrow x^2 + \frac{1}{x^2} = 47$$

cube on both sides,

$$\Rightarrow x^6 + \frac{1}{x^6} = (47)^3 - 3 \times 47$$

$$= 103823 - 141 = 103682$$

65. (3) ATQ,

$$4x^2 + 4 = 12x$$

$$\Rightarrow x + \frac{1}{x} = 3$$

Taking square on both sides,

$$\Rightarrow \left(x + \frac{1}{x}\right)^2 = 9$$

Taking square on both sides,

$$\Rightarrow \left(x + \frac{1}{x}\right)^4 = 81$$

66. (2) A : B

$$20000 \times x : 25000 \times y$$

$$4x : 5y$$

$$\text{then } \frac{4x}{5y} = \frac{1}{2}$$

$$\Rightarrow x : y = 5 : 8$$

Hence, Required ratio = 5 : 8

67. (2) $x + x + 2 + x + 4 + x + 6 + x + 8 + x + 10 = 25 \times 6$

$$\Rightarrow x = 20$$

Hence, Required average

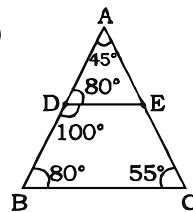
$$= \frac{25 \times 6 + 32}{7} = 26$$

68. (3) ATQ,

$$\frac{\cos A + \cos B}{\sin A + \sin B} = \frac{2 \cos\left(\frac{A+B}{2}\right) \cos\left(\frac{A-B}{2}\right)}{2 \sin\left(\frac{A+B}{2}\right) \cos\left(\frac{A-B}{2}\right)}$$

$$= \frac{\cos\left(\frac{A+B}{2}\right)}{\sin\left(\frac{A+B}{2}\right)} = \cot\left(\frac{A+B}{2}\right)$$

69. (1)



DE || BC

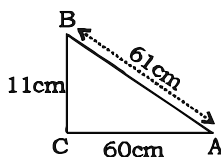
because D and E are the mid point of AB and AC

$$\text{then, } \angle ABC = 180^\circ - 45^\circ - 55^\circ$$

$$= 80^\circ = \angle ADE$$

$$\text{then, } \angle BDE = 180^\circ - 80^\circ = 100^\circ$$

70. (2) ATQ,



Circum-radius

$$= \frac{AB}{2} = \frac{\sqrt{60^2 + 11^2}}{2}$$

$$= \frac{61}{2} = 30.5 \text{ cm}$$

71. (2) ATQ,

$$\frac{\sin^2 A}{\cos^2 A} - \sin^2 A = \frac{\sin^2 A (\sec^2 A - 1)}{\sec^2 A}$$

$$= \frac{\sin^2 A \tan^2 A}{\sec^2 A} = \sin^4 A$$

72. (3) ATQ,

$$\angle ABC = \angle CBO + \angle OBA = 40^\circ$$

$$+ 35^\circ = 75^\circ$$

$$\text{then, } \angle AOC = 2 \angle ABC = 2 \times 75^\circ = 150^\circ$$

73. (1) ATQ,

$$\text{Required percent} = \frac{250}{750} \times 100$$

$$= 33.33\%$$

74. (4) ATQ,

$$\text{Total number} = 250 + 300 + 200 + 400 + 350 + 250 + 350 + 250 + 150$$

$$= 2500$$

75. (3) ATQ,

$$\text{Total Hockey's players} = 200 + 250 + 150$$

$$= 600$$

90. (3) The comparison should be always between same things.

Here we are comparing 'population' of Mumbai with the population of USA, thus add 'that of' before any city of the USA. Omit 'in'

91. (3) Change 'a big sister' into 'the elder sister'.

94. (3) 'Allegations' are always 'levelled against someone'.