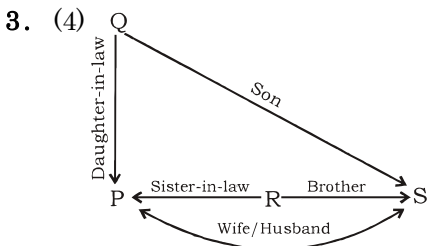


ANSWER SET - 43

1. (4) 2. (3) 3. (4) 4. (3) 5. (2)
6. (3) 7. (4) 8. (3) 9. (3) 10. (1)
11. (1) 12. (3) 13. (4) 14. (4) 15. (4)
16. (1) 17. (2) 18. (4) 19. (3) 20. (4)
21. (2) 22. (3) 23. (4) 24. (4) 25. (3)
26. (1) 27. (1) 28. (2) 29. (2) 30. (1)
31. (2) 32. (4) 33. (4) 34. (2) 35. (3)
36. (2) 37. (3) 38. (3) 39. (1) 40. (3)
41. (3) 42. (2) 43. (3) 44. (3) 45. (3)
46. (3) 47. (1) 48. (3) 49. (4) 50. (1)
51. (2) 52. (1) 53. (1) 54. (2) 55. (4)
56. (3) 57. (4) 58. (1) 59. (1) 60. (4)
61. (4) 62. (3) 63. (4) 64. (3) 65. (3)
66. (1) 67. (3) 68. (3) 69. (3) 70. (2)
71. (1) 72. (4) 73. (2) 74. (2) 75. (1)
76. (3) 77. (2) 78. (1) 79. (2) 80. (1)
81. (2) 82. (4) 83. (2) 84. (2) 85. (1)
86. (4) 87. (3) 88. (3) 89. (4) 90. (1)
91. (1) 92. (2) 93. (3) 94. (3) 95. (2)
96. (1) 97. (3) 98. (3) 99. (4) 100. (2)

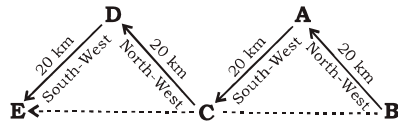
EXPLANATION - 43

1. (4) $13 + 23 = 36$
 $\Rightarrow 36 + (9 \times 1) = 45$
 $16 + 16 = 32$
 $\Rightarrow 32 + (9 \times 2) = 50$
 $27 + 37 = 64$
 $\Rightarrow 64 + (9 \times 3) = 91$
2. (3) $354 = 3 + 5 + 4 = 12$
 $615 = 6 + 1 + 5 = 12$
 $912 = 9 + 1 + 2 = 12$
 $547 = 5 + 4 + 7 = 16$
 $718 = 7 + 1 + 8 = 16$
 $619 = 6 + 1 + 9 = 16$
 $464 = 4 + 6 + 4 = 14$
 $545 = 5 + 4 + 5 = 14$
 $734 = 7 + 3 + 4 = 14$



4. (3) (1) $18 \times 14 \div 24 + 12 - 16$
 $= \frac{13}{2} \neq 12$
 (2) $16 + 14 \div 24 - 18 \times 12$
 $= \frac{-2393}{12} \neq 24$
 (3) $24 \div 12 \times 12 - 16 + 18 = 26 = 26$
 (4) $18 - 16 \times 12 + 18 \div 12$
 $= \frac{-345}{2} \neq 24$
5. (2) (1) 19, 27 \Rightarrow Pair of odd numbers
 (2) 16, 24 \Rightarrow Pair of even numbers
 (3) 15, 23 \Rightarrow Pair of odd numbers

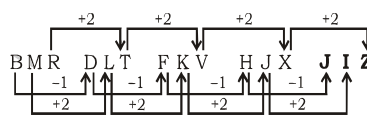
- (4) 13, 21 \Rightarrow Pair of odd numbers
6. (3) All other shapes can be arranged perfectly in each other, apart from shape (3)
7. (4)
8. (3)



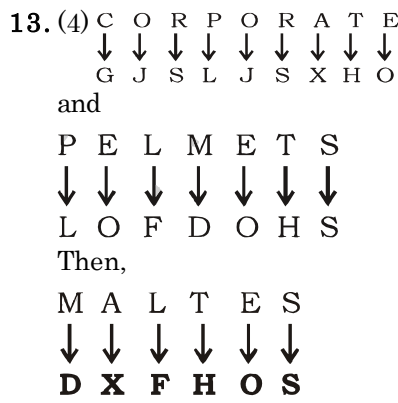
9. (3) (Note :- Read "If the day yesterday was Thursday" as "If the day before yesterday was Thursday")

Thursday	← Friday	← Saturday	→ Sunday	→ Monday
	↓	↓	↓	↓
	Yesterday	Today	Tomorrow	Day after tomorrow

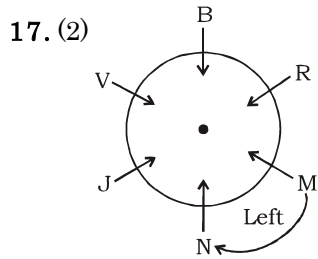
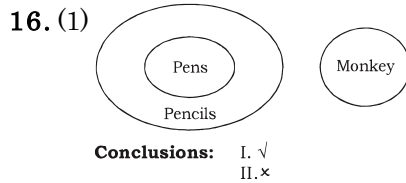
10. (1) abb/baa/abb/baa/abb/baa
11. (1)



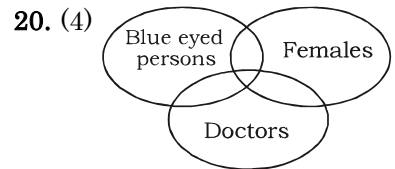
12. (3) $4 \times 1.5 \uparrow \rightarrow 6 \times 1.5 \uparrow \rightarrow 9 \times 1.5 \uparrow \rightarrow 13\frac{1}{2} \times 1.5 \uparrow \rightarrow 20\frac{1}{4}$



14. (4) RETINUE
15. (4)



18. (4) 3, 5, 1, 4, 2
 19. (3)
-

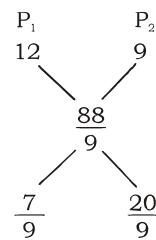


21. (2)
 22. (3)
 23. (4)
-
24. (4)
 25. (3) T = 03, 10, 56, 68, 78, 89
 E = 11, 43, 59, 75, 97
 M = 21, 31, 32, 58, 69, 79,
 P = 12, 40, 55, 96, 99
 T = 03, 10, 56, 68, 78, 89
 26. (1) Selling price of sugar = ₹ 11

$$\text{Gain} = \frac{1}{8} \text{ of C.P.}$$

$$\text{Cost price of sugar} = 11 \times \frac{8}{9}$$

$$= ₹ \frac{88}{9}$$



So, required ratio = 7 : 20

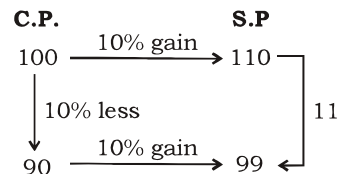
27. (1) Ratio of speeds = $45 : 10 \times \frac{18}{5}$

$$= 45 : 36$$

$$= 5 : 4$$

28. (2) ATQ,
 Students on thursday
 $= 250 \times 4 + 260 \times 3 - 255 \times 6$
 $= 1000 + 780 - 1530 = 250$

29. (2) Let Cost price = ₹ 100



If ₹ 11 is less than C.P. of radio = ₹ 100

If ₹ 132 is less than C.P. of radio

$$= ₹ \left(100 \times \frac{132}{11} \right)$$

$$= ₹ 1200$$

30. (1) ATQ,
 Boys in school = 70%
 So, girls in school = 30%

Total number of girls = 504

$$\text{So, number of boys} = 504 \times \frac{70}{30}$$

$$= 1176$$

31. (2)

$$\sqrt{\frac{1.21 \times 0.9}{1.1 \times 0.11}} = \sqrt{\frac{121 \times 9 \times 100 \times 10}{100 \times 10 \times 11 \times 11}}$$

$$= \sqrt{9} = 3$$

32. (4) $25 \times 20 \times 9 \times 12 \times 30$
 $= (5^2) \times (2^2 \times 5) \times (3^2) \times (2^2 \times 3) \times (2 \times 3 \times 5)$
 $= (5^2 \times 2^2 \times 3^2 \times 2^2) \times (5 \times 3 \times 2 \times 3 \times 5)$

So, above must be multiplied by 2 to make a perfect square.

33. (4) P_1 18 $\frac{5}{18}$
 P_2 15 $\frac{90}{15} = 6$
 P_3 10 $\frac{9}{20}$

Let total units of work = 90

Work done in first 3 minutes = $20 \times 3 = 60$

Remaining units of work = $90 - 60 = 30$

ATQ,

$$\text{Tank will be filled in} = \frac{30}{6+9} = 2$$

min.

34. (2) A 4 $\frac{3}{4}$
 B 12 $\frac{1}{12}$
 C 6 $\frac{2}{6}$

Let total units of work = 12

Work done by A in first 2 days = $3 \times 2 = 6$

Work done by A, B & C in 3rd day = 6

So, time taken to finish the work = 3 days

35. (3) Length of equilateral triangle = 4.4 cm

So, perimeter of triangle = $3 \times 4.4 = 13.2$ cm

Circumference of circular ring = 13.2 cm

So, radius of circular ring

$$= \frac{13.2 \times 7}{22 \times 2} = 2.1 \text{ cm}$$

36. (2) Ratio of volumes of two right circular cone = 2 : 3

Ratio of Radii of their base = 1 : 2
 So, ratio of their heights

$$= \frac{2}{(1)^2} : \frac{3}{(2)^2}$$

$$= 8 : 3$$

37. (3) ATQ,

$$\text{Time required} = \frac{500}{(63-3) \times \frac{5}{18}}$$

$$= \frac{500 \times 18}{60 \times 5} = 30 \text{ seconds}$$

38. (3) ATQ,

$$\text{Required time} = \frac{6000 \times 5 \times 4}{8000 \times 3}$$

= 5 years

39. (1) Let Amount borrowed = ₹ 8000

C.I. rate = 5 %

Compound interest in 3 years

$$= 8000 \left(1 + \frac{5}{100}\right)^3 - 8000$$

$$= ₹ 1261$$

Simple interest in 3 years

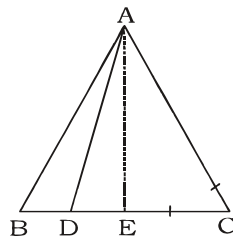
$$= \frac{8000 \times 3 \times 3}{100} = 720$$

So, profit earned = ₹ (1261 - 720)

$$= ₹ 541$$

So, money borrowed = ₹ 8000

40. (3)



In equilateral ΔABC

$AB = 10$ cm

$$BE = 10 \times \frac{1}{2} = 5 \text{ cm}$$

$$DE = 5 - \frac{10}{3} = \frac{5}{3} \text{ cm}$$

$$AE = 10 \times \frac{\sqrt{3}}{2} = 5\sqrt{3} \text{ cm}$$

$$AD = \sqrt{(5\sqrt{3})^2 + \left(\frac{5}{3}\right)^2}$$

$$= \sqrt{75 + \frac{25}{9}}$$

$$= \sqrt{\frac{25}{2}(27+1)} = \frac{10}{3}\sqrt{7}$$

41. (3) $x = a(b-c)$, $y = b(c-a)$ & $z = c(a-b)$

$$\left(\frac{x}{a}\right)^3 + \left(\frac{y}{b}\right)^3 + \left(\frac{z}{c}\right)^3 = (b-c)^3 + (c-a)^3 + (a-b)^3$$

$$= 3(b-c)(c-a)(a-b)$$

$$= \frac{3xyz}{abc}$$

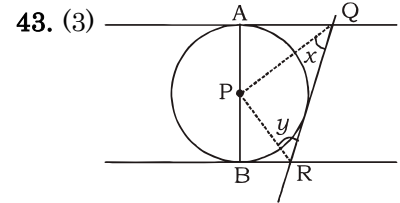
42. (2) $\frac{a}{b} = \frac{c}{d} = \frac{e}{f} = 4$

$$a = 4b, c = 4d, e = 4f$$

$$\frac{2a^2 + 3c^2 + 4e^2}{2b^2 + 3d^2 + 4f^2}$$

$$= \frac{2(4b)^2 + 3(4d)^2 + 4(4f)^2}{2b^2 + 3d^2 + 4f^2}$$

$$= 16$$



AQ & QR are tangents,

So, $\angle AQP = \angle PQR = x$

BR & RQ are tangents,

So, $\angle BRP = \angle PRQ = y$

Also, $2x + 2y = 180^\circ$

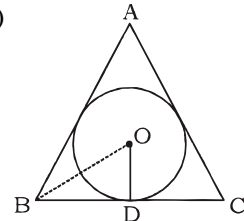
$$x + y = 90^\circ$$

In ΔPQR

$$\angle QPR + \angle PRQ + \angle RQP = 180^\circ$$

$$\angle QPR = 180^\circ - 90^\circ = 90^\circ$$

44. (3)



Also, $\angle BOD = 15^\circ$

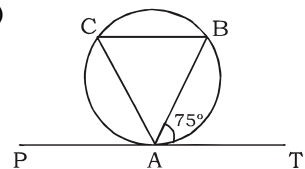
$$\angle BDO = 90^\circ$$

$$\angle OBD = 180^\circ - 90^\circ - 15^\circ$$

$$= 75^\circ$$

$$\angle ABD = 2 \times 75^\circ = 150^\circ$$

45. (3)



ATQ,

$$\angle BAT = 75^\circ$$

$$\angle BAC = 45^\circ$$

$$\angle PAC = 180^\circ - \angle BAT - \angle BAC$$

$$\angle ABC = \angle PAC = 60^\circ$$

$$= 180^\circ - 75^\circ - 45^\circ = 60^\circ$$

46. (3) $\frac{\sin \theta + \cos \theta}{\sin \theta - \cos \theta} = 3$

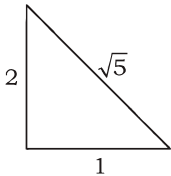
Using C & D

$$\frac{\sin \theta + \cos \theta + \sin \theta - \cos \theta}{\sin \theta + \cos \theta - \sin \theta - \cos \theta}$$

$$= \frac{3+1}{3-1}$$

$$\frac{2 \sin \theta}{2 \cos \theta} = \frac{4}{2}$$

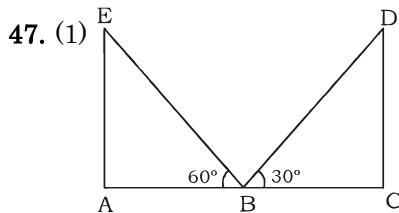
$$\tan \theta = 2$$



$$\sin^4 \theta - \cos^4 \theta = \left(\frac{2}{\sqrt{5}}\right)^4 - \left(\frac{1}{\sqrt{5}}\right)^4$$

$$= \frac{16}{24} - \frac{1}{25}$$

$$= \frac{15}{25} = \frac{3}{5}$$



$$AC = 150 \text{ m}$$

In $\triangle ABE$

$$\frac{AE}{AB} = \tan 60^\circ$$

$$AB = AE \times \frac{1}{\sqrt{3}}$$

In $\triangle BCD$

$$\frac{CD}{BC} = \tan 30^\circ$$

$$\frac{AE}{150 - AB} = \frac{1}{\sqrt{3}} \quad (CD = AE)$$

$$\sqrt{3}AE = 150 - \frac{AE}{\sqrt{3}}$$

$$\sqrt{3}AE + \frac{AE}{\sqrt{3}} = 150$$

$$\frac{(3+1)AE}{\sqrt{3}} = 150$$

$$AE = \frac{150\sqrt{3}}{4}$$

$$= 37.5\sqrt{3} \text{ m}$$

$$\text{Height of pole} = 37.5\sqrt{3} \text{ m}$$

48. (3) Required amount

$$= \frac{81^\circ - 54^\circ}{360^\circ} \times 40000$$

$$= \frac{27^\circ}{360^\circ} \times 40000$$

$$= 3000 \text{ Crore}$$

49. (4) Amount proposed = 12000

$$\text{Which is} = \frac{12000}{40000} \times 360^\circ$$

$$= 108^\circ$$

$$= \text{Agriculture}$$

50. (1) Required ratio = $108^\circ : 72^\circ$

$$= 3 : 2$$

79. (2) 'to buy into' should replace the underlined part to improve the sentence. 'Buy into' means 'to acquire a stake or interest in'. 'Buy off' means to bribe in order to secure improper cooperation. So, (3) can't be the right choice. (1) 'To buying into' is grammatically incorrect. So, (2) is the right answer.

80. (1) 'the lesser-known' should replace the underlined part in order to improve the sentence. Less/ lesser is used for uncountable nouns, while few/ fewer is used for countable nouns. The article 'the' should be used before 'lesser' as a specific object is being talked about. So, none of the options (2) and (3) are correct. The option (1) is the correct choice.

81. (2) 'a thumbs up' should replace the underlined part in order to improve the sentence. 'To give someone a thumbs up' means an expression of approval or satisfaction. None of the options except the option (2) is in its correct form. So, (2) is the right answer.

82. (4) 'recognizing' should come in place of the blank, as the structure of the main clause and the subordinate clause should remain same throughout the sentence. The main clause has the verb 'notice' in gerund form, so the subordinate clause too must contain the gerund form of the verb (recognize) i.e. 'recognizing'.

83. (2) 'inadequate' should come in place of the blank, as the sentence talks about some specific months when skin gets drier than it gets in summers, giving way to the skin demand more moisture, making the summer face-creams

inadequate, as in summers, skin in less-dry. So, (2) is the only correct choice to be filled in the blank.