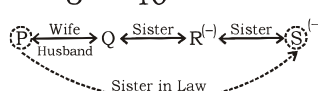
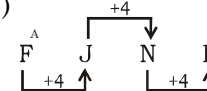
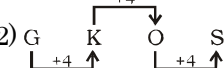

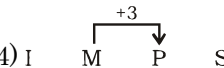


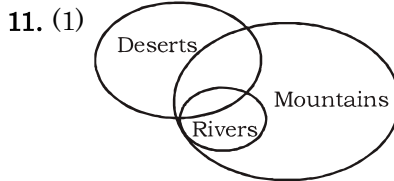
ANSWER SET - 36

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

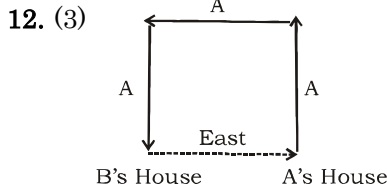
EXPLANATION - 36

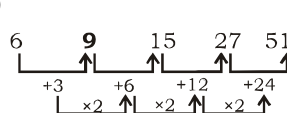
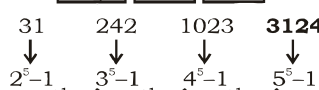
1. (4) ACME : MACE :: ALGA : GALA
 ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓
 1 2 3 4 3 1 2 4 1 2 3 4 3 1 2 4
2. (2) 11 : 119 :: 15 : 223
 ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓
 11²-2 119 15²-2 223
3. (1) Immigration is related to arrival. Similarly, emigration is related to departure.
4. (3) Histogram is related to bar-chart. Similarly, Calligraphy is related to hand-writing.
5. (3) Given Set 4 25 81
 ↓ ↓ ↓
 2² 5² 9²
 16 64 100
 ↓ ↓ ↓
 4² 8² 10²
6. (2) 
7. (2) 5 = 15 ÷ 3
 5 = 5
8. (4) Redeem is the different from the others.
9. (1) All the other options are related to the decomposition of matter, while 'smoulder' is related to burning.

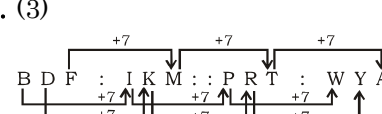
10. (4) (1) 
- (2) 
- (3) 
- (4) 

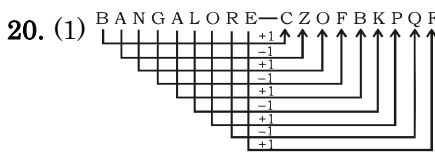


Conclusions : I - ✓
 II - ×

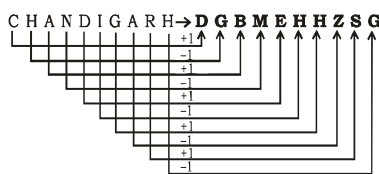


13. (1)
14. (2) 
15. (2) 

16. (3) 
17. (3) a n d/a n d /a n d/a n d/a n d/
a
18. (3) CARPENTER
19. (3) TUTOR

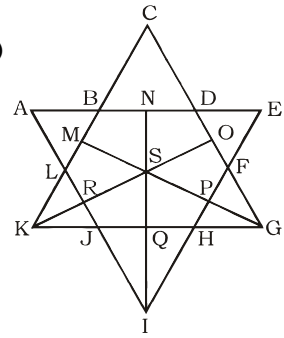


Similarly,



21. (4)
22. (2) (14 × 4) - (12 × 3) = 20 ;
 (9 × 9) - (13 × 3) = 42 and
 (12 × 8) - (7 × 11) = 19
 Similarly,
 (20 × 10) - (20 × 8) = 40
23. (2) 6 + 6² = 42 ; 42 + 5² = 42;
 67 + 4² = 83; 83 + 3² = 92;
 92 + 2² = 96; 96 + 1² = 97;
 97 + 0² = 97;
24. (4)

25. (4)



There are 27 triangles in the given figure — PGH, HIQ, IJQ, JKR, SRI, KSQ, KSM, FHG, INE, INA, KOG, GMK, KOG, AIE, CKG, HIG, JKL, KSG, CGM, KLR, OGS, SGQ, SPI, ABL, BCD, DEF and FGP.

26. (1) $\frac{3\sqrt{2} + 2\sqrt{3}}{3\sqrt{2} - 2\sqrt{3}}$
 $= \frac{3\sqrt{2} + 2\sqrt{3}}{3\sqrt{2} - 2\sqrt{3}} \times \frac{3\sqrt{2} + 2\sqrt{3}}{3\sqrt{2} + 2\sqrt{3}}$

$= \frac{18 + 12 + 12\sqrt{6}}{18 - 12}$
 $= 5 + 2\sqrt{6}$

27. (3) Let the Numbers are = (17a + 13) & (17b + 11)
 So, if the sum of numbers = (17a + 17b + 13 + 11)
 = 17(a + b + 1) + 7
 then, ATQ, the remainder will be = 7

29. (2) $4^{4x+1} = \frac{1}{64} = 4^{-3}$
 $4x + 1 = -3$
 $x = -1$

31. (3) $4x = \sec\theta, \frac{4}{x} = \tan\theta$

$4x + \frac{4}{x} = \sec\theta + \tan\theta$

$4x - \frac{4}{x} = \sec\theta - \tan\theta$

$\left(4x - \frac{4}{x}\right)\left(4x + \frac{4}{x}\right)$

$= (\sec\theta + \tan\theta)(\sec\theta - \tan\theta)$

$16\left(x^2 - \frac{1}{x^2}\right) = (\sec^2\theta - \tan^2\theta) = 1$

$8\left(x^2 - \frac{1}{x^2}\right) = \frac{1}{2}$

32. (2) $\frac{x^2 - x + 1}{x^2 + x + 1} = \frac{2}{3}$

$3x^2 - 3x + 3 = 2x^2 + 2x + 2$
 $x^2 - 5x + 1 = 0$

$$x + \frac{1}{x} - 5 = 0$$

$$x + \frac{1}{x} = 5$$

33. (1) $\tan(x+y)\tan(x-y) = 1$

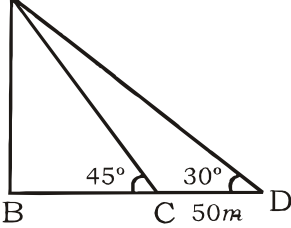
Let $x = 45^\circ$ & $y = 0^\circ$

$$\tan 45^\circ \tan 45^\circ = 1$$

So,

$$\tan \frac{2x}{3} = \tan \frac{2 \times 45^\circ}{3} = \tan 30^\circ = \frac{1}{\sqrt{3}}$$

36. (3) A



In $\triangle ABC$ —

$$\frac{BC}{AB} = \cot 45^\circ$$

$$BC = AB$$

In $\triangle ABD$ —

$$\frac{BD}{AB} = \cot 30^\circ$$

$$BC + CD = AB \times \sqrt{3}$$

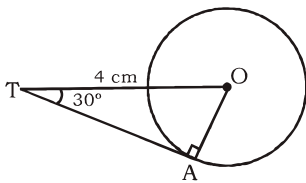
$$AB + 60 = AB \times \sqrt{3}$$

$$AB(\sqrt{3} - 1) = 60$$

$$AB = \frac{60}{\sqrt{3} - 1} \times \frac{\sqrt{3} + 1}{\sqrt{3} + 1}$$

$$= 30(\sqrt{3} + 1)$$

38. (3)



In $\triangle OTA$ —

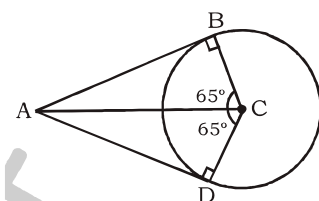
$$OT = 4 \text{ cm}$$

$$\angle OTA = 30^\circ$$

$$\frac{AT}{OT} = \cos 30^\circ$$

$$AT = 4 \times \frac{\sqrt{3}}{2} = 2\sqrt{3} \text{ cm}$$

39. (2)



So, $\angle BAC = 180^\circ - 90^\circ - 65^\circ = 65^\circ$

$$\angle BAD = 25^\circ \times 2^\circ = 50^\circ$$

41. (4) Amount at S.I in 2 years = ₹ 880

Amount at S.I in 3 years = ₹ 920

So, S.I. for one year = ₹ 40

So, sum = ₹ 880 - 2 × 40 = ₹ 800

42. (1) $\begin{matrix} A+B & 18 & \xrightarrow{\hspace{2cm}} & 4 \\ B+C & 24 & \xrightarrow{\hspace{2cm}} & 3 \\ C+A & 36 & \xrightarrow{\hspace{2cm}} & \frac{2}{9} \end{matrix}$

Time taken together to complete

$$\text{the work} = \frac{72 \times 2}{9} = 16 \text{ days}$$

43. (1) ATQ,

$$\text{Average speed} = \frac{2 \times 60 \times 40}{60 + 40}$$

$$= 48 \text{ km/hr.}$$

44. (2) Let the speed of the boat = x km/hr.

the speed of the current = 3 km/hr.

ATQ,

$$\frac{12}{x+3} + \frac{12}{x-3} = 3$$

$$\frac{12x - 36 + 12x + 36}{x^2 - 9} = 3$$

$$8x = x^2 - 9$$

$$x^2 - 8x - 9 = 0$$

$$(x - 9)(x + 1) = 0$$

$$x = 9$$

so, the speed of the boat in still water = 9 km/hr.

45. (3) A can complete $\frac{2}{3}$ rd of the

work in = 4 days

So, A can complete the work in

$$= \frac{4 \times 3}{2} = 6 \text{ days}$$

B can complete $\frac{3}{5}$ th of work in =

6 days

So, B can complete the work in

$$= \frac{6 \times 5}{3} = 10 \text{ days}$$

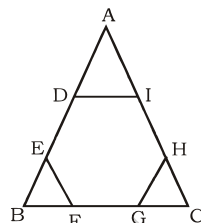
A $\begin{matrix} 6 & \xrightarrow{\hspace{2cm}} & 5 \\ & \searrow & \end{matrix}$

B $\begin{matrix} 10 & \xrightarrow{\hspace{2cm}} & \frac{3}{8} \\ & \searrow & \end{matrix}$

So, both A and B can complete the

$$\text{work in} = \frac{30}{8} = 3\frac{3}{4} \text{ days}$$

46. (2)



Side of the equilateral triangle = 12 cm

So, side of the regular hexagon

$$= \frac{12}{3} = 4 \text{ cm}$$

∴, Area of the regular hexagon

$$= \frac{3}{2} \sqrt{3} \times (4)^2 = 24\sqrt{3} \text{ cm}^2$$

47. (3) ATQ,

Time taken to fill the tank

$$\frac{1}{3} \times \pi \times \left(\frac{12}{10}\right)^2 \times 35$$

$$= \frac{\pi \times \left(\frac{4}{10}\right)^2 \times 500}{60}$$

$$= \frac{\pi \times (12)^2 \times 35 \times (10)^2 \times 60}{3 \times \pi \times (4)^2 \times 500 \times \pi \times (10)^2}$$

$$= 12.6 \text{ seconds}$$

48. (2) Required perc. = $\frac{28 - 25}{25} \times 100$

$$= 12\%$$

49. (1) Required ratio = 3 : 7

50. (3) Required number

$$= \frac{3}{32} \times 800000 = 75000$$

76. (4) Change 'what' into 'that'. 'What' is only used to mean 'the things which'. It cannot be used as an ordinary relative pronoun after a noun or pronoun.

77. (2) Change 'nose' into 'noses'. Plural forms are almost always used if there are possessives.

78. (3) No error. The sentence is correct.

79. (3) On carefully reading the sentence, we gather that only the option (3) 'Agriculture', preserve, can be the choice that will make a meaningful sentence. 'Preserve' here means

'a sphere of activity regarded as being reserved for a particular person or group.'

80. (2) The options (1) and (4) cannot be the answer, as they won't make a meaningful or grammatically correct sentence. Out of the options (2) and (3), only (2) can be the answer as it represents the sentence in a better form.