

Missing Character -1 SSC. SOLUTION

Directions 1-2: Each of the following questions has a different figures with question mark/s. Replace the question mark/s by choosin the correct response from amongst the alternative given.

1. (D) The pattern is as follows:

$$7 \times 2 + 1 = 15; \quad 15 \times 2 + 1 = 31;$$

$$31 \times 2 + 1 = 63; \quad 63 \times 2 + 1 = 127.$$

Therefore, Missing Number = $127 \times 2 + 1 = 255$.

2. (d) The pattern is as follows:

Moving clockwise we get

$$4 \times 2 - 1 = 7; \quad 7 \times 2 + 1 = 15;$$

$$15 \times 2 - 1 = 29; \quad 29 \times 2 + 1 = 59;$$

$$59 \times 2 - 1 = 117; \quad 117 \times 2 + 1 = 235$$

Therefore, Missing Number = $235 \times 2 - 1 = 469$

3. (b) The pattern is as follows

Moving clockwise we get

$$(5 \times 3) + (8 \times 6) = 63;$$

$$(2 \times 7) + (9 \times 3) = 41$$

Therefore, missing number = $(6 \times 7) + (5 \times 8) = 82$

4. (c) The pattern as as follows :

Moving anticlockwise we get

$$11 + 22 + 33 + 44 = 110;$$

$$16 + 24 + 32 + 40 = 112$$

Let th missing number be x.

Then,

$$x = 23 + 34 + 12 = 114$$

or, $x = 45$

Therefore, missing number = 45.

5. (b) The pattern is as follows

Moving clockwise we get

$$(2 + 6 + 2 + 3)^2 - 1 = 168$$

$$(3 + 5 + 1 + 2)^2 - 1 = 120$$

Therefore, missing number = $(2 + 3 + 5 + 4)^2 - 1 = 195$

6. (b) The pattern is as follows

$$(56 + 15) - (22 + 8) = 41$$

$$(46 + 9) - (10 + 6) = 39$$

Therefore, missing number = $(34 + 11) - (14 + 6) = 25$

7. (d) The pattern is as follows:

$$93 - (27 + 63) = 3; \quad 79 - (38 + 37) = 4$$

Therefore, missing number = $67 - (16 + 42) = 9$

8. (b) The pattern is as follows

12, 18, 30 are all multiples of 6
16, 32, 40 are all multiples of 8;
And 36, 18, 27 are all multiples of 9

Therefore, missing number = 9.

9. (d) The pattern is as follows

$$4^2 \times 3^2 = 144; \quad 11^2 \times 9^2 = 9801$$

Therefore, missing number = $15^2 \times 6^2 = 8100$

10. (d) The pattern is as follows

Number at the bottom = sum of numbers on right and centre subtracted from the number on the left

i.e., $47 - (5 + 39) = 3$; $157 - (83 + 69) = 5$

similarly

$49 - (11 + 35) = 3$

Therefore, missing number = 3.

11. (c) The pattern is as follows

$2^2 + 4^2 = 20$; $3^2 + 9^2 = 90$

Therefore, missing number = $1^2 + 7^2 = 50$

12. (d) The pattern is as follows

$\frac{13+19}{8} = 4$; $\frac{71+9}{8} = 10$

Therefore, missing number = $\frac{128+32}{8} = 20$

13. (d) The pattern is as follows

In the first figure $\frac{(16+12)}{2} = 14$;

In the second figure $\frac{(21+9)}{2} = 15$

Let the missing number be x

Then, in the third figure, $\frac{(10+x)}{2} = 16$

Or, $x = 22$

Therefore, missing number = 22.

14. (a) The pattern is as follows

In the first fig. $10 - 4 = 6$; $18 - 10 = 8$;

$18 - 4 = 14$;

In the second fig. $14 - 8 = 6$; $22 - 14 = 8$

$22 - 8 = 14$

In the third fig. $11 - 5 = 6$; $15 - 11 = 4$

Therefore, missing number in the third fig. = $15 - 5 = 10$.

15. (a) The pattern is as follows :

Number in the upper part = combination of the numbers obtained by squaring the numbers at the bottom.

In the first triangle, $(3)^2(4)^2 = 916$

In the second triangle, $(2)^2(3)^2 = 49$

Therefore, missing number in the third triangle = $(1)^2(5)^2 = (1)(25) = 125$

16. (b) The pattern as as follows

The number in the centre of the triangle = sum of the digits of all the three numbers at the vertices

In the first triangle $15 + 27 + 35$
 $= (1+5) + (2+7) + (3+5) = 23$

In the second triangle, $13 + 35 + 20$.
 $= (1+3) + (3+5) + (2+0) = 14$.

Therefore, Missing number in the third triangle
 $= 42 + 36 + 70$
 $= (4+2) + (3+6) + (7+0) = 22$.

17. (d) The pattern is as follows:

In the first triangle, $[17 - (5 + 7)]^2 = 25$

In the second triangle, $[27-(4+9)]^2 = 196$;

Therefore, missing in the third triangle

$$= [35 - (20 + 13)]^2 = 4$$

18. (a) The pattern is as follows

The difference between the corresponding numbers above and below the circle = digit of the number inside the circle

In the first figure $(2 - 1) = 1$; $(6 - 3) = 3$; $(5 - 4) = 1$

In the second figure $(4 - 2) = 2$; $(6 - 2) = 4$; $(8 - 0) = 8$

So, in the third figure;

$$(7 - 5) = 2; (9 - 3) = 6; (3 - 1) = 2$$

Therefore, missing number in the third figure = 262

19. (b) the pattern is as follows

Moving clockwise and anticlockwise we get

$$(915 - 364) = 551; (789 - 543) = 246$$

Therefore, missing number = $(863 - 241) = 622$

20. (d) The pattern is as follows

Moving clockwise we get,

In the first figure, $3^2, 4^2, 5^2, 6^2$ and $(7^2 + 2)$

i.e., 9, 16, 25, 36 and 51.

21. (b) The pattern is as follows;

Moving clockwise we get

$$16 + 25 = 41; 25 + 4 = 29; 4 + 28 = 32$$

Therefore missing number $28 + 16 = 44$.

22. (b) The pattern is as follows

Moving clockwise we get,

Right half form the series : 2, 3, 4, 5

Left half form the series: 5, 7, 9, 11

Therefore, missing number = 11.

23. (b) the pattern is as follows

$$\frac{25+17}{7} = 6; \frac{38+18}{7} = 8$$

Therefore, missing number = $\frac{89+16}{7} = 15$

24. (b) The pattern is as follows

In each row, out of the letters B, D and S each of these must appear once.

The numbers are written as follows:

In the first row, $(7 - 4)^2 = 9$;

In the second row, $(5 - 3)^2 = 4$

And in the third row, $(11 - 7)^2 = 16$

Therefore, missing pair of letter and number = B₁₆

25. (b) the pattern is as follows

In the first row V, X, Z; in the second row A, C, E and in the third row P, R, T

The numbers in each column form an arithmetic series

In the first column 41, 51, 61

In the second column 21, 31, 41

And in the third column 9, 12, 15

Therefore, Missing pair of letter and number = E₁₂

26. (d) The pattern is as follows

Moving clockwise we get

$$1^3 - 1 = 0; 2^3 - 1 = 7; 3^3 - 1 = 26$$

Therefore, missing number = $4^3 - 1 = 63$

27. (d) The pattern is as follows

Moving clockwise we get

$$149 + 26 = 175; 175 + 28 = 203$$

Therefore, missing number = $203 + 30 = 233$

28. (a) The pattern is as follows

Moving clockwise we get

$$9 + 2^2 = 13; 13 + 3^2 = 22$$

Therefore, missing number = $22 + 4^2 = 38$

29. (b) The pattern is as follows

Moving clockwise we get

$$\frac{594}{3} = 198; \frac{198}{3} = 66$$

Therefore, missing number $66/3 = 22$.

30. (d) The pattern is as follows

Moving clockwise we get

$$7 \times 2 \times 3 = 42; 9 \times 1 \times 2 = 18.$$

31. D

32. C

33. C

34. B

35. C