

TEST YOUR SKILLS. SOLUTION

Directions 1-5: What will come in place of the question mark (?) in the following number series (?)

1. (a) The pattern is

$$1229 - 500 = 729 = 9^3$$

$$500 - 157 = 343 = 7^3$$

$$157 - 32 = 125 = 5^3$$

$$32 - 5 = 27 = 3^3$$

$$? = 5 - 1^3 = 5 - 1 = 4$$

2. (b) The pattern is

$$4 \times 1.5 = 6$$

$$6 \times 2 = 12$$

$$12 \times 2.5 = 30$$

$$30 \times 3 = 90$$

$$90 \times 3.5 = 315$$

3. (c) The pattern is

$$5 + 1^2 = 5 + 1 = 6$$

$$6 + 2^2 = 6 + 4 = 10$$

$$10 + 3^2 = 10 + 9 = 19$$

$$19 + 4^2 = 19 + 16 = 35$$

$$? = 35 + 5^2 = 35 + 25 = 60$$

4. (d) The pattern is

$$197 - 121 = 76$$

$$311 - 197 = 114 = 76 + 38$$

$$463 - 311 = 152 = 114 + 38$$

$$653 - 463 = 190 = 152 + 38$$

$$? = 653 + 190 + 38 = 881$$

5. (c) The pattern is

$$146 + 1248 = 1394$$

$$1394 - \frac{1248}{2} = 1394 - 624 = 770$$

$$770 + \frac{624}{2} = 770 + 312 = 1082$$

$$1082 - \frac{312}{2} = 1082 - 156 = 926$$

$$. ? = 926 + \frac{156}{2} = 926 + 78 = 1004$$

6. (c) The pattern of the number series is

$$14 - 10 = 4$$

$$25 - 14 = 11 = 4 \times 3 - 1$$

$$55 - 25 = 30 = 11 \times 3 - 3$$

$$140 - 55 = 85 = 30 \times 3 - 5$$

$$? = 140 + 85 \times 3 - 7$$

$$= 140 + 248 = 388$$

7. (e) The pattern of the number series is

$$119 + 1 \times 12 = 131$$

$$131 + 2 \times 12 = 155$$

$$155 + 3 \times 12 = 191$$

$$191 + 4 \times 12 = 239$$

$$239 + 5 \times 12 = 299$$

8. (d) The pattern of the number series is

$$11 + 1 \times 6 = 11 + 6 = 17$$

$$17 + 2 \times 6 = 17 + 12 = 29$$

$$29 + 3 \times 6 = 29 + 18 = 47$$

$$47 + 4 \times 6 = 47 + 24 = 71$$

9. (c) The pattern of the number series is

$$586 + 1 = 587$$

$$587 + (1 - 2) = 587 - 1 = 586$$

$$586 + (-1 - 4) = 586 - 5 = 581$$

$$581 + (-5 - 6) = 581 - 11 = 570$$

$$570 + (-11 - 8) = 570 - 19 = 551$$

$$551 + (-19 - 10) = 551 - 29 = 522$$

10. (e) The pattern is

$$64 - 10 = 54, 54 + 15 = 69, 69 - 20 = 49, 49 + 25 = 74,$$

$$74 - 30 = 44, 44 + 35 = 79$$

11. (b) The pattern of the number series is

$$(4000 \div 2) + 8 = 2008$$

$$(2008 \div 2) + 8 = 1012$$

$$(1012 \div 2) + 8 = 514$$

$$(514 \div 2) + 8 = 265$$

12. (c) The pattern of the number series is

$$5 \times 1 = 5, 5 \times 3 = 15, 15 \times 5 = 75$$

$$75 \times 7 = 525$$

$$525 \times 9 = 4725$$

13. (a) The pattern of the number series

$$52 \times \frac{1}{2} = 26, 26 \times 1 = 26, 26 \times \frac{3}{2} = 39$$

$$39 \times 2 = 78, 78 \times \frac{5}{2} = 195$$

14. (c) The pattern of the number series

$$586 + 1 = 587$$

$$587 + (1 - 2) = 587 - 1 = 586$$

$$586 + (-1 - 4) = 586 - 5 = 581$$

$$581 + (-5 - 6) = 581 - 11 = 570$$

$$570 + (-11 - 8) = 570 - 19 = 551$$

$$551 + (-19 - 10) = 551 - 29 = 522$$

15. (e) The pattern of the number series is :

$$64 - 10 = 54, 54 + 15 = 69, 69 - 20 = 49, 49 + 25 = 74,$$

$$74 - 30 = 44, 44 + 35 = 79$$

16. (b) The pattern of the number series is

$$(4000 \div 2) + 8 = 2008$$

$$(2008 \div 2) + 8 = 1012$$

$$(1012 \div 2) + 8 = 514$$

$$(514 \div 2) + 8 = 265$$

17. (c) The pattern of the number series is

$$5 \times 1 = 5, 5 \times 3 = 15, 15 \times 5 = 75$$

$$75 \times 7 = 525$$

$$525 \times 9 = 4725$$

18. (a) The pattern of the number series is

$$52 \times \frac{1}{2} = 26, 26 \times 1 = 26$$

$$26 \times \frac{3}{2} = 39, 39 \times 2 = 78$$

$$78 \times \frac{5}{2} = \boxed{195}$$

19. (c) The pattern of the number series is
 $28 + 11 = 39$

$$39 + 24 (= 11 + 13) = 63$$

$$63 + 39 (= 24 + 15) = 102$$

$$102 + 56 (= 39 + 17) = 158$$

$$158 + 75 (= 56 + 19) = \boxed{233}$$

20.

21.

Option C

Explanation:

One letter from the beginning and one from the end of a term are removed, one by one, in alternate steps.

22.

Option D

Explanation:

$$A \xrightarrow{+3} D \xrightarrow{+4} H \xrightarrow{+5} M \xrightarrow{+6} \textcircled{S} \xrightarrow{+7} Z$$

23. Option E

Explanation:

Each term of the series is obtained by removing two letters from the preceding term one from the beginning and one from the end, So, the missing term is PENDICU.

24. Option A

Explanation:

$$Z \xrightarrow{-6} T \xrightarrow{-6} N \xrightarrow{-6} H \xrightarrow{-6} B$$

$$Z \xrightarrow{-3} \textcircled{W} \xrightarrow{-3} T \xrightarrow{-3} \textcircled{Q} \xrightarrow{-3} N \xrightarrow{-3} \textcircled{K} \xrightarrow{-3} H \xrightarrow{-3} \textcircled{E} \xrightarrow{-3} B$$

25. Option B

Explanation:

There is a gap of four letters between the first and second, the second and third letters of each term, and also between the last letter of a term and the first letter of the next term.

26. Option D

Explanation:

$$Z \xrightarrow{-5} U \xrightarrow{-4} Q \xrightarrow{-3} \textcircled{N} \xrightarrow{-2} L$$

27. Option B

Explanation:

The given sequence is a combination of two series:
 I. M, O, R, V and II. N, L, I, ?

28. Option C

$$B \xrightarrow{+2} D \xrightarrow{+2} F \xrightarrow{+3} I \xrightarrow{+3} L \xrightarrow{+4} P \xrightarrow{+4} \textcircled{T}$$

29. Option C

Explanation:

In the first step, one letter from the beginning and one from the end of a term are removed to give the next term. In the second step, two letters from the beginning of a term are removed.

These two steps are repeated alternately.

30. Option C

Explanation:

$$\text{1st letter : } D \xrightarrow{+12} P \xrightarrow{+12} B \xrightarrow{+12} \textcircled{N}$$

$$\text{2nd letter : } H \xrightarrow{+12} T \xrightarrow{+12} F \xrightarrow{+12} \textcircled{R}$$

$$\text{3rd letter : } L \xrightarrow{+12} X \xrightarrow{+12} J \xrightarrow{+12} \textcircled{V}$$

31. C. The letters decrease by 1; the numbers are multiplied by 2.

32. D This is an alternating division and addition series: First, divide by 2, and then add 8

33. D This is a simple addition series; each number is 3 more than the previous number.

34. A In this series, 5 is added to the previous number; the number 70 is inserted as every third number.

35. B This is a simple alternating addition and subtraction series. The first series begins with 8 and adds 3; the second begins with 43 and subtracts 2.

36. B This is an alternating addition and subtraction series. Roman numbers alternate with Arabic numbers. In the Roman numeral pattern, each number decreases by 1. In the Arabic numeral pattern, each number increases by 1.

37. B This is a multiplication series; each number is 3 times the previous number.

38. B This is a simple subtraction series in which a random number, 93, is interpolated as every third number. In the subtraction series, 10 is subtracted from each number to arrive at the next.

39. D In this simple addition with repetition series, each number in the series repeats itself, and then increases by 12 to arrive at the next number.

40. D This series alternates the addition of 4 with the subtraction of 3.

41. B In this series, the letters progress by 2, and the numbers increase by 2.

42. A Two series alternate here, with every third number following a different pattern. In the main series, 3 is added to each number to arrive at the next. In the alternating series, 5 is subtracted from each number to arrive at the next.

43. C. This is a simple subtraction series; each number is 4 less than the previous number.

44. C. This is a simple multiplication series. Each number is 2 times greater than the previous number.

45. A In this series, the letters progress by 1; the numbers decrease by 3.

46. A

First Square:

$$6 + 4 + 4 = 14$$

N is the 14th letter.
 Second Square:
 $4 + 1 + 7 = 12$
 L is the 12th letter.
 Third Square:
 $5 + 6 + 10 = 21$
 U is the 21st letter.
 Fourth Square:
 $14 + 2 + 1 = 17$
 Q is the 17th letter.

47. A. 180
 $2 + 2 = 4 \{2 * 2 * 1\}$
 $3 + 3 = 18 \{3 * 3 * 2\}$
 $4 + 4 = 48 \{4 * 4 * 3\}$
 $6 + 6 = 180 \{6 * 6 * 5\}$

48. A
 If you look closely, you will find that the center number can be obtained by multiplying the largest numbers on the corners and subtracting the smallest number from it.
 $26 = 7 * 5 - 3^2$

In the same manner, every other figure follows. Thus the missing number:
 $9 * 5 - 4^2$
 $= 45 - 16$
 $= 29$

49. A. 98.
 Explanation : $ab + a(a-1)$
 $7 * 8 + 7(7-1)$
 $= 56 + 42$

50. A
 L8
 Explanation:
 To know why, just read the number series upside down and you will find that the numbers are 91, 90, 89, 88, __, 86
 So L8 when read upside down reads as 87.

51. Option **D**
 The given sequence is a combination of two series :
 I. 1st, 3rd, 5th, 7th, 9th, 11th terms i.e. A, B, C, D, E, ? II.
 2nd, 4th, 6th, 8th, 10th terms i.e. B, D, F, H, ?
 Clearly, I consists of consecutive letters while II consists of alternate letters. So, the missing letter in I is F, while that in II is J. So, the missing terms i.e. 10th and 11th terms are J and F respectively.

52. Option **A**
 $Z \xrightarrow{-2} X \xrightarrow{-5} S \xrightarrow{-10} I \xrightarrow{-17} R \xrightarrow{-26} R \xrightarrow{-37} G \xrightarrow{-50} I$

Note that the numbers representing the difference between the consecutive terms of the series again from a series - 2, 5, 10, 17, 26, 37, 50 - in which the pattern is +3, +5, +7, +9, +11, +13.

53. Option **B**
 1st letter : $A \xrightarrow{+3} D \xrightarrow{+3} G \xrightarrow{+3} J \xrightarrow{+3} M$
 2nd letter : $Y \xrightarrow{-2} W \xrightarrow{-2} U \xrightarrow{-2} S \xrightarrow{-2} Q$
 3rd letter : $B \xrightarrow{+3} E \xrightarrow{+3} H \xrightarrow{+3} K \xrightarrow{+3} N$

54. Option **B**

Explanation:

$T \xrightarrow{-2} R \xrightarrow{-2} P \xrightarrow{-2} N \xrightarrow{-2} L \xrightarrow{-2} J \xrightarrow{-2} H$

55. Option **A**

1st letter : $P \xrightarrow{-1} O \xrightarrow{-1} N \xrightarrow{-1} M \xrightarrow{-1} L$
 2nd letter : $M \xrightarrow{+2} O \xrightarrow{+2} Q \xrightarrow{+2} S \xrightarrow{+2} U$
 3rd letter : $T \xrightarrow{-1} S \xrightarrow{-1} R \xrightarrow{-1} Q \xrightarrow{-1} P$

56. Option **C**

The given series may be divided into 2 groups :

I. A, B, C, D, E, F, ?, ? and II. N, O, P, ?

Clearly, the given series consists of two terms of I followed by one term of II.

The missing terms in I are G and H while the missing term in II is Q.

57. Option **D**

1st letter : $G \xrightarrow{+3} J \xrightarrow{+4} N \xrightarrow{+5} S \xrightarrow{+6} Y \xrightarrow{+7} F$
 2nd letter : $H \xrightarrow{+4} L \xrightarrow{+5} Q \xrightarrow{+6} W \xrightarrow{+7} D \xrightarrow{+8} L$

58. Option **B**

$R \xrightarrow{+3} U \xrightarrow{+3} X \xrightarrow{+3} A \xrightarrow{+3} D \xrightarrow{+3} G$

59. Option **B**

1st letter : $A \xrightarrow{+1} B \xrightarrow{+2} D \xrightarrow{+3} G \xrightarrow{+4} K$
 2nd letter : $Y \xrightarrow{-3} V \xrightarrow{-4} R \xrightarrow{-5} M \xrightarrow{-6} G$
 3rd letter : $D \xrightarrow{+2} F \xrightarrow{+2} H \xrightarrow{+2} J \xrightarrow{+2} L$

60. Option **C**

1st letter : $A \xrightarrow{+2} C \xrightarrow{+3} F \xrightarrow{+4} J$
 2nd letter : $Z \xrightarrow{-2} X \xrightarrow{-3} U \xrightarrow{-4} Q$