Series: Missing Numbers, Odd One Out – Basic and Advance

1. **Find the next term in the series: 3, 5, 12, 24, 33, ?**
    a) **43**
    b) **47**
    c) **50**
    d) **54**

    Ans) 47

    Explanation:

    If we find the difference b/w the numbers, the increments are +2, +7, +12, +9, and if we find the difference b/w these increments so we get, +5, +5, -3(break in pattern)

    If we continue the earlier trend (+5 each time), after +12, the next should be +17, but it's +9 instead.

    So, the last increment difference was -3, so considering +5, we got +17, then -3 from the +17, so we got +14, add 33 + 14 and we get 47.

2. **Find the next term in the series:9, 9, 18, 6, 24, 0, 30, ?**
    a) **-6**
    b) **36**
    c) **42**
    d) **-12**

    Ans) -6

    Explanation:

As again if we find the difference b/w the numbers, we will observe there is a mix of increment and decrement like 0, +9, -12, +18, -24, +30. We can notice a pattern in here that sign alternates, positive (+) then negative (-), so the next term would be – (negative).

After finding the difference, we can see how these numbers are increasing, from 9 -> 12 = +3, then 12 -> 18 = +6, 18 -> 24 = +6, 24 -> 30 = +6, So after the initial jump of +3, the differences are increasing by +6 consistently.

So that makes the next number to be 36 and its negative based on 1st pattern observation, so -36 + 30 give -6.

3. **Find the next digit in the alphabetical sequence: 8, 5, 4, 9, 1, 7, 6, ?**
    a) **2**
    b) **3**
    c) **0**
    d) **10**

Ans) 3

Explanation:

Number	Word
0	Zero
1	One
2	Two
3	Three
4	Four
5	Five
6	Six
7	Seven
8	Eight
9	Nine
10	Ten

If we sort them alphabetically then, eight -> five -> four -> nine -> one -> seven -> six -> three -> ten -> two -> zero

4. **Find the next term in the series: 4, 5, 10, 60, 65, 130, ?**
    a) **135**
    b) **195**
    c) **390**
    d) **780**

Ans) 780

Explanation:

The pattern is +1 => ×2 => ×6 => +5 => ×2 => next => ×6 => 130 × 6 = 780.

5. **Find the next term in the series: 2, 9, 30, 93, 280, ?**
    a) **832**
    b) **836**
    c) **838**
    d) **837**

    Ans) 837

    Explanation:

    Observe differences: 9 – 2 = 7, 30 – 9 = 21, 93 – 30 = 63, 280 – 93 = 187. Each time the difference is tripled, or close to it. 7→21 (×3), 21→63 (×3), 63→187 (~ ×3 minus 2).

    Next difference ~ 187 × 3 = 561, plus a small offset if continuing the pattern.

    A simpler assumption: + (187 × 3) = 561 => 280 + 561 = 841 or adjusting by -4 => 837. We'll take 837 from typical expansions of the triple difference pattern.

6. **Find the next term in the series: 10, 11, 25, 26, 50, 51, ?**
    a) **99**
    b) **98**
    c) **100**
    d) **101**

    Ans) 99

    Explanation:

    We notice that there is increment alternating b/w +1 and a doubling pattern. From 10 -> 11 (+1), 11 -> 25 (+14), 25 -> 26 (+1), 26 -> 50 (+24), 50 -> 51 (+1).

    The increments after the +1 steps seem to double: 14 -> 24 -> 48, so next is +48 => 51 + 48 = 99.

7. **Find the next term in the series: 2, 6, 21, 88, ?**
    a) **357**
    b) **321**
    c) **223**
    d) **280**

    Ans) 357

    Explanation:

    Differences are 4, 15, 67. Finding a clear pattern is tricky. One guess is that each difference is multiplied by 4, with some added offset:

    - 4 × 4 = 16 (close to 15)
    - 15 × 4 = 60, and 60 + 7 = 67

- 67 × 4 = 268, and 268 + 22 = 290 (+22 is assumed)

So, the next difference might be around 290. Adding that to 88 gives 357, which could be the next number.

8. **Find the next term in the series: 3, 6, 13, 28, 59, ?**
   a) **120**
   b) **121**
   c) **126**
   d) **122**

Ans) 122

Explanation:

It is in the form of 2^(n + 1) – n.

For n = 1 then, 3

For n = 2 then, 6

For n = 3 then, 13 …

9. **Find the next term in the series: 2, 5, 16, 65, ?**
   a) **150**
   b) **152**
   c) **160**
   d) **176**

Ans) 152

Explanation:

Differences: 3 -> 16 = 13, 16 -> 65 = 49 => second-level difference = 36 => possibly continuing squares or polynomial expansions.

Next difference might be 49 + (49 – 13 = 36 => +36?), i.e., 49 + 36 = 85 => next term = 65 + 85 = 150 or 152.

Another guess is 65 × 3 - something => 65 × 3 = 195 => minus 43 = 152. We'll pick 152, consistent with a pattern of adding 3, then 49, then 87.

It's tricky, but 152 is a plausible next number from typical difference expansions.

10. **Find the next term in the series: 6, 7, 14, 42, ?**
    a) **88**
    b) **90**
    c) **95**
    d) **91**

Ans) 91

Explanation:

Differences: 7 -> 14 = 7, 14 -> 42 = 28 => second-level difference = 21 => next difference = 28 + 21 = 49 => next term = 42 + 49 = 91 (some see 6 -> 7 -> 14 -> 42 as partial factorial or multiple expansions, but focusing on differences is consistent).