Coding and Decoding

Drill 1: Solutions

a. *Category :* **D**
Coding pattern:

R A N G E
↓ ↓ ↓ ↓ ↓
1 2 3 4 5

R A N D O M
↓ ↓ ↓ ↓ ↓ ↓
1 2 3 6 7 8

We observe from the above coding pattern that each alphabet corresponds to a particular number.

M A N G O
↓ ↓ ↓ ↓ ↓
8 2 3 4 7

Code for MANGO: 82347

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b. *Category:* **A**
Coding pattern:

O R A N G E
↓ ↓ ↓ ↓ ↓ ↓
N Q Z M F D

The respective previous alphabet is used for coding.

V I O L E T
↓ ↓ ↓ ↓ ↓ ↓
U H N K D S

Code for VIOLET: UHNKDS

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c. *Category :* **G**

Coding pattern:

S H I F T
-1 -2 -3 -4 -5
R F F B O

On referring to category : G, we have to perform the reverse operation.

: [+1, +2, +3, +4, +5]

Decode LKUMB

L K U M B
+1 +2 +3 +4 +5
M X X Q G

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d. *Category : F*

Coding pattern:

Life is good : KUI ENB KAJ ------ (1)
Live your life : ENB KIR JAN ------ (2)
The only common word in both the sentence is "life" and the code word that is common is "ENB".
Code for life: ENB

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e. *Category: B*

Coding pattern:

F R U I T
+1 +3 +5 +7 +9
G U Z P C

The coding logic is in the sequence of odd numbers (+1, +3, +5, +7, +9)

Code for FLOWER:

F L O W E R
+1 +3 +5 +7 +9 +11
G O T D N C

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f. *Category: E*

Coding pattern: Each word is coded randomly as another word.

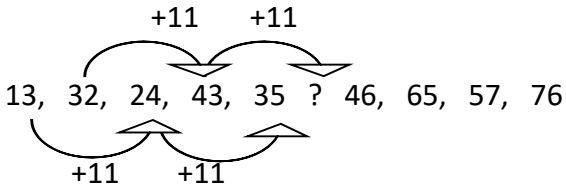
Football → cricket
Cricket → basketball
Basketball → volleyball
Volleyball → khokho
Khokho → cricket

Code for ball game: We know, the non-ball game is khokho is coded as cricket. So answer is **Cricket**.

DRILL 2

a. Category: A

Pattern: The difference between alternate terms is always 11.



Missing term: 43 + 11 = **54**

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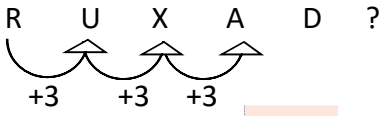
b. Category: A

Pattern: +3 is added to each of the alphabet.



Missing term: D + 3 = G

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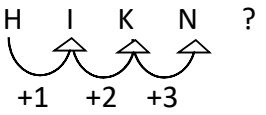
c. Category: B

Pattern: +1, +2, +3, +4 is added to each alphabet.



Missing term: N + 4 = R

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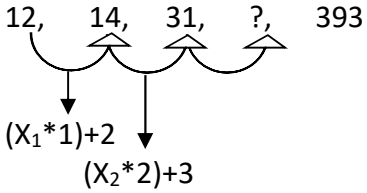
d. Category:

Pattern: [(previous term)*1] +2,
[(previous term)*2] +3,



Missing term: (31*3) + 4 = 97

DRILL 3

a. Category: D

Operator used: Nature of each term is that all the numbers are squares.

49: 81: : 100: ?

7^2 : 9^2 : : 10^2 :

Missing term: $12^2 = 144$

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b. Category: C

Operator used: Multiple operators.

5: 124 : : 7 : ?

$(5^3)-1$

Missing term: $(7^3 - 1) = 343 - 1$

$= 342$

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c. Category: A

Operator used: Basic operator.

C : F : : ? : R

+3 -3

Missing term: R - 3 = O

DRILL 4

Odd man out

a. 1, 9, 25, 32, 81, 121

The odd man out is 32.

Since, the given numbers are perfect square except 32.

i.e. 1 → 1^2, 3 → 3^2, 5 → 5^2, 32 - x, 9 → 9^2, 11 → 11^2.

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b. 2, 4, 8, 14, 22, 34, 44, 58.

The pattern followed is

+2 +4 +6 +8 +10

2, → 4, → 8, → 14, → 22, → 34, → 44, → 58

The odd man out is 34.

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c. 17, 12, 20, 24, 23, 34, 26, 48.

In this pattern the alternate terms having the constant difference.

+3 +3 +3
ie., 17, → 20, → 23, → 26

Similarly, 12 → 24 → 34 → 48
+12 +12 +12
The odd man out is 34.

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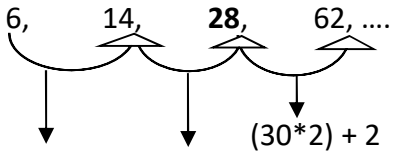
d. 6, 14, 28, 62, 126, 254
By analyzing from the given series we'll come to know that the pattern followed is

(Value * 2) + 2



So the odd man out is 28.

DRILL 5

Visual Reasoning:

a. From the given problem figure the characteristics is that the first figure is a combination of hexagon and Trapezoid and in next figure it is Pentagon and Triangle.
So we can see that there is a relation between the number of sides, i.e the difference in the number of sides is 2.
If you analyze in the answer figures option D and option A is possible, but in the problem figures it is evident that one of the side is common to both shapes.
Only in option A, this characteristic is satisfied.
Hence the answer is A.

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b. If you analyze the pattern,
First figure to option A – one symbol has been changed.
A to B – one symbol has been changed.
B to C – one symbol has been changed.
C to D – one symbol has been changed.
D to E – Three symbols has been changed.
Hence option E is odd man out.

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c. In the figure 1 and 2, the relationship is that the triangle shaped image in 1 is inverted in figure 2 and also the leg portion broadens in figure 2.
And also the arrow is making an angle shift of 135^{o} clockwise [approximately].

In the image 3, the head portion faces left, so in figure 4, it should be in the right side. Also the leg portion should broaden.
So the answer can be either figure A or C.
Then arrow in figure 3 should make a 135^{o} clockwise shift, which is satisfied in figure C.

GOOGLY QUESTIONS

1. **Wrong.**
   FLOWER is coded as GMPVDQ
   i.e F L O W E R
   +1 +1 +1 -1 -1 -1
   G M P V D Q

   Similarly,
   C O L O U R
   +1 +1 +1 -1 -1 -1
   D P M N T Q

2. **Correct**

3. **Wrong**.
   2, 7, 14, 19, 26, 31

   The pattern is +5, +7, +5, +7, +5

   2, 7, 14, 19, 26, 31,
   +5 +7 +5 +7 +5

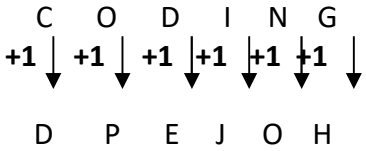
4. **Wrong.**
   21: 7 : : 9 : __
   (7*3): 7
   So the pattern is 7*3 : 7*1
   Another value given is 9.
   So the pattern should be 3*3 : 3*1 [it should have same nature].
   So the missing term is **3**.

5. **Correct.**

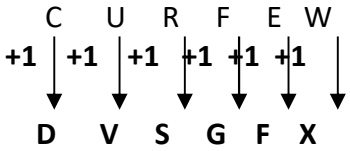
CONCEPT REVIEW QUESTIONS

1. *Answer: DVSGFX*
   Explanation:

   Here, the coding logic is (+1).
   Given,

   Similarly,

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2. *Answer: 312723*
   Explanation:

   In the question each letter has been assigned a numerical value.
   ENTRY is coded as "12345"
   Which means E= 1, N= 2, T=3, R=4, Y=5 and STEADY is coded as "931785" which means S=9, T=3, E=1, A=7, D=8, Y=5.
   Then, the code for TENANT will be **312723.**

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3. *Answer: sky*
   Explanation:

   The color of milk is white.
   In the question, white is coded as sky.
   So the answer is **sky.**

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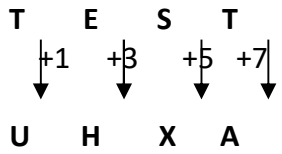
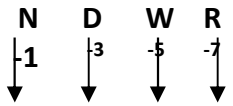
4. *Answer: MARK*
   Explanation:

   In the question, TEST is coded as UHXA. The coding pattern is +1, +3, +5, +7.

   Performing the reverse operation (decoding), the code for NDWR is obtained.
   So,

M A R K

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5. *Answer:* QTV
   Explanation:

   "Rose is beautiful" is coded as "LQN PMW QTV".
   "Rani likes Rose" is coded as "BJC QTV OSD".
   In the first 2 sentences, the only common word is 'Rose' and the only common word in their respective codes is 'QTV'.
   Hence 'Rose' is coded as **'QTV'.**

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6. *Answer:* 162.5
   Explanation:

   Here, the difference between: 115.5 and 95 is 20.5.
   138 and 115.5 is 22.5.
   ? And 138 should be 24.5, since it's clear that the given sequence is in A.P with a common difference of 2.
   So adding 24.5 to 138, we get **162.5.**

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7. *Answer:* MNOP
   Explanation:

   If we observe the series, we can find that between each term of the series some alphabets are missing,

   A, CD, GHI ? UVWXY
   Left out → B E,F J,K,L

   So, the missing term should be the next 4 alphabets which are **MNOP.**

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8. *Answer: 529*
   Explanation:

   The given series is,
   121, 225, 361, ?, which can be written as,
   11^2, 15^2, 19^2, ?
   So the missing term is 23^2 = **529.**

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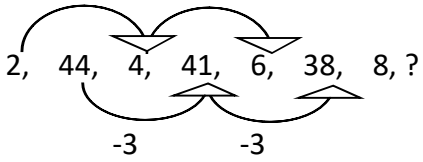
9. *Answer: 35*
   Explanation:

   If we observe the series,
   +2 +2



The next term will be 38 – 3 = 35
Answer is **35**

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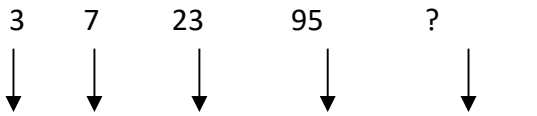
10. *Answer: 479*
Explanation:

For the given series,
3, 7, 23, 95, ?
The pattern formed is:



3, (3*2+1), (7*3+2), (23*4 +3), (95*5 +4)

So, the missing term is **479.**

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11. *Answer: 144*
Explanation:

If x^2 is the first term, second tern is obtained by $(x+2)^2$.
49 : 81 :: 100 : ?
Which is: $7^2 : 9^2 :: 10^2 : 12^2$
So, answer is $(10 + 2)^2$ = **144.**

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12. *Answer: BRR*
Explanation:

The given series is : DDA : ADD :: RRB : ?
Second term is the mirror image of first term.
So answer is **BRR**.

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13. *Answer: 64*
Explanation:

The series given is; 8 : 81 :: 7 : ?
Second term is obtained by incrementing the first term by 1 and squaring it.
So missing term is $(7 + 1)^2$ = **64**.

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14. *Answer: 9TH LETTER I*
Explanation:

The series given is; B : D :: C : ?
Place value of B= 2, second term is D = 2^2 = 4.
Place value of C= 3, so next term is 3^2= 9.
The answer is **9th letter I.**

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15. *Answer: 350*
Explanation:

In the given series, 6 : 222 :: 7 : ?
The second term is obtained by adding first term to the cube of first term.
i.e. 222 = 6+ 6^3.
Therefore, the missing term is 7 + 7^3 = **350.**

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16. *Answer: 150*
Explanation:

In the given series, difference between the terms is in A.P.

Diff 16 18 20 22 28 It should be 24.

56, 72, 90, 110, 132, 150

So the odd term is 150.

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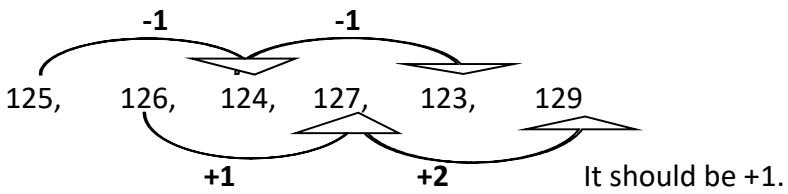
17. *Answer: 129*
Explanation:

In the given series, odd places decrease by 1 and even places increases by 1.



It should be +1.

So odd man out = **129**.

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18. *Answer: OUT*
Explanation:

In the series, RAT, OUT, BED, LOT, TIN
Each term should have only one vowel.
But, OUT has 2 vowels.
So the odd term = **OUT**.

19. *Answer: 27*
Explanation:

In the given series, all terms should be prime numbers but 27 is not.
So odd term = **27.**

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20. *Answer: 32*
Explanation:

The terms of the series are in the pattern

3	4	10	32	136	685	4116
↓	↓	↓	↓	↓		↓
3	(1*x+1)	(2*x+2)	(3*x+3)	(4*x+4)	(5*x+5)…	

Where x is the previous term
But here instead of 32 it should have been 33.
So odd term is 32.

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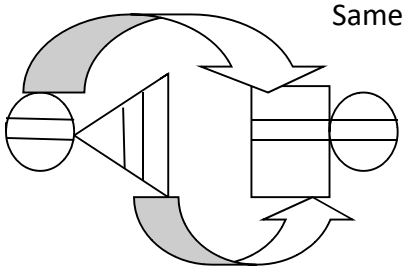
21. *Answer: FIGURE E*
Explanation:

On comparing fig 1 & 2.

Fig.1



Here the horizontal line remains same whereas vertical line changes perpendicularly.
Similar changes in fig 3 & 4.
Extending this logic, the continuation figure for 5 is **Figure. (e)**

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22. *Answer: FIGURE B*
Explanation:

On comparing fig. 1& 2, the shaded region increases to 2 more squares in anticlockwise direction.
Similar changes in fig. 3& 4.

Extending this logic, the continuation figure for fig. 5 is **Figure. (b)**

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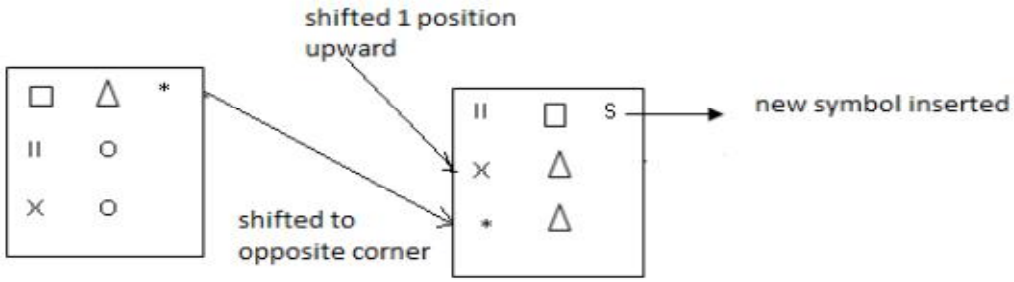
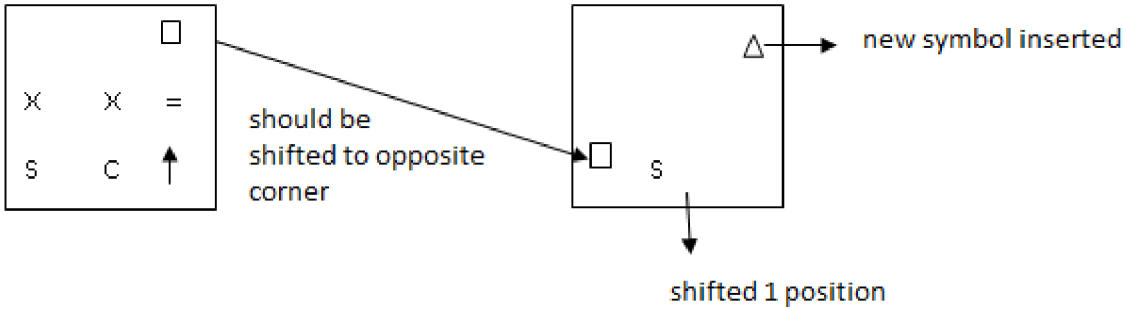
23. *Answer: OPTION B*
Explanation:

On comparing fig.1 and fig.2,



Extending this logic,
It should be,



Answer: **option b**

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24. *Answer: FIGURE E*
Explanation:

In the problem fig, each polygon side increases by 1 as we move outwards.
[Inner = middle = outer]
Same characteristics are seen in answer **figure. e**.

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25. *Answer: FIGURE C*
Explanation:

The characteristic is 'total no. of cuts is odd' and increases by 2 in next figure and also the cuts are alternative.
So answer figure is **figure.c** with a total of 7 cuts.