The Walnut

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**LOGICAL REASONING** *(Answers on page 3)*
NUMERICAL PUZZLES – 1

1) Airforce plans a stealth operation and they want to use the minimum possible number of F-35 fighter jets for the operation. What is the smallest number of jets that could fly in the given formation: two jets in front of a jet, two jets behind a jet and a jet between two jets?
   a) 9 b) 3 c) 7 d) 5

2) Consider the given square grid of size 6 × 6. It consists of 36 identical square cells. How many squares are there altogether?
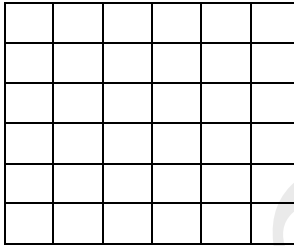
   a) 66 b) 75 c) 91 d) 71

3) An engineer divided a circular construction site into two halves and divided one half into smaller pieces of equal size. Each of the small pieces is 16π in area. If she has total five pieces altogether, then how big was the construction site before division?
   a) 80π b) 140π c) 160π d) 128π

4) Find out the missing number? Similar pattern is applicable to all 3 columns of numbers.

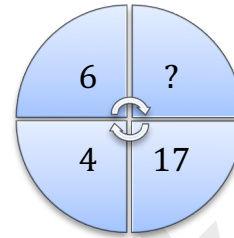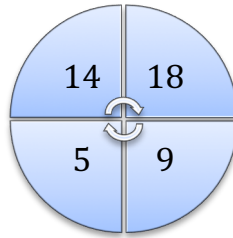| 7		4		9
14		8		18
28		16		?
56		32		72

   a) 36 b) 24 c) 26 d) 38

5) A herd of 300 Horses consist of Stallions and Mares is kept in a stable. For every 5 Mares there is one Stallion. The number of Mares in the group is:
   a) 285 b) 250 c) 295 d) 150

6) Find the missing number?
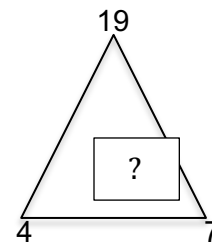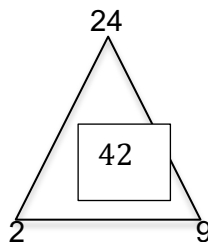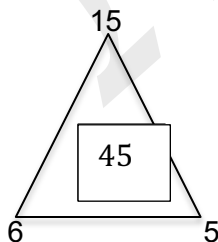
   a) 40 b) 37 c) 47 d) Either (a) or (c)

7) Which number replaces the question mark, if all figures follow the similar pattern?

| 7 | 11 |
| 12 | 16 |

| 14 | 18 |
| 5 | 9 |

| 6 | ? |
| 4 | 17 |
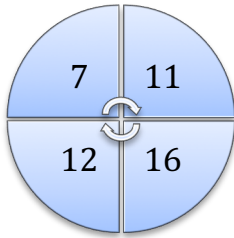
a) 15   b) 19   c) 13   d) 16

8) Find the missing number in accordance with the given arrangement?

9	8	7
6	5	4
3	2	1
57	?	29

a) 43   b) 44   c) 42   d) Either (a) or (c)

9) Which number replaces the question mark?

9
146
4   7

6
?
5   8

2
121
9   6

a) 140   b) 137   c) 125   d) 158

10) Find the missing number in the table?

8	125	343	14
216	27	512	17
729	64	125	?

a) 18   b) 16   c) 23   d) 15

Answers and Explanation:

1) b (3)   Pattern: (1 2 3) or 1 or (3 2 1) or 3
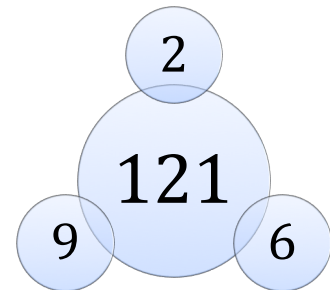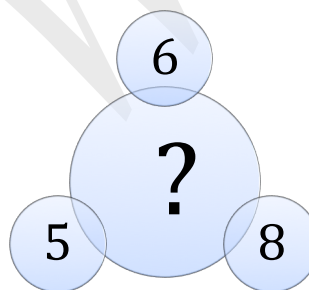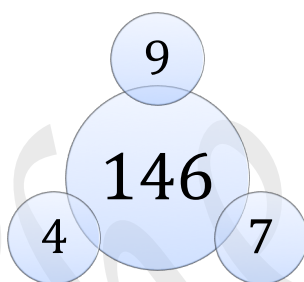   2   2
                                3   1

2) c (91)   6 x 6 square: ($6^2 + 5^2 + 4^2 + 3^2 + 2^2 + 1^2 = 91$)

3) d (128π)   One half is divided into four and another half remains the same (Total 5 pieces). Area of a small piece is 16. So 16x4=64 and the second half 64. Total 64+64=128.

4) a (36)   In each column (begin from the top and go down), second number is the double of first number, third number is the double of second number and so on.

5) b (250)   There are 6 horses in each small group including 5 Mares and 1 Stallion. Altogether, 50 small groups (300/6) and the number of Stallions 50. So, Mares 250.

6) c (47)   Each triangle, two numbers at the base (bottom) should be multiplied and added with the number at the top to get the number inside the box.

7) b (19)   Each circle, the diagonal sum is 23 (Or total sum is 46)

8) d {Either (a) or (c)} The average of the figures in the first column and third column gives the figure in the second column. (Example: 9+7=16/2 = 8). So, the answer 43. On the other hand, figure in the first row is multiplied by figure in second row and added with the third row gives the fourth row. (Example: 9x6+3 = 57). Answer 42. Therefore, either 43 or 42 can be the answer. Either (a) or (c).

9) c (125)   In each figure, sum of the squares of the numbers in 3 small circles gets you the figure inside the large circle. (Example figure1: $9^2 + 4^2 + 7^2 = 146$)

10) a (18)   Columns 1, 2 and 3 are the cubes of numbers, fourth column is the sum of the cube root of those numbers in columns 1, 2 and 3. (Example: 2+5+7 = 14)