**Problems on Odd Man Out and Series**

**1.** Find the odd one out:  
(a) 121  
(b) 256  
(c) 400  
(d) 625  
(e) 800

**Solution:** The numbers 121, 256, 400, and 625 are all perfect squares:

* 121=112121 = 11^2 121=112
* 256=162256 = 16^2 256=162
* 400=202400 = 20^2 400=202
* 625=252625 = 25^2 625=252

However, 800 is **not** a perfect square, so the odd one out is **800**.

**2.** Find the odd one out:  
(a) 2, 3, 5, 7, 11  
(b) 31, 37, 41, 47  
(c) 53, 59, 61, 67  
(d) 10, 20, 30, 40

**Solution:** The numbers in options (a), (b), and (c) are all prime numbers, but option (d) contains multiples of 10, which are not prime. So, the odd one out is **10, 20, 30, 40**.

**3.** Find the odd one out:  
(a) 3, 9, 27, 81  
(b) 2, 6, 18, 54  
(c) 5, 25, 125, 625  
(d) 7, 14, 28, 56

**Solution:** The first three options are powers of 3, 2, and 5, respectively. However, option (d) involves doubling numbers, not exponential growth. So, the odd one out is **7, 14, 28, 56**.

**4.** Find the odd one out:  
(a) 2, 4, 6, 8, 10  
(b) 1, 4, 9, 16, 25  
(c) 3, 5, 7, 11, 13  
(d) 4, 8, 12, 16, 20

**Solution:** Option (b) is a series of **perfect squares** (1², 2², 3², 4², 5²), while the others are arithmetic progressions. Thus, the odd one out is **1, 4, 9, 16, 25**.

**5.** Find the odd one out:  
(a) 9  
(b) 16  
(c) 25  
(d) 36  
(e) 56

**Solution:** The first four numbers are perfect squares (3², 4², 5², 6²), but 56 is not a perfect square. Therefore, the odd one out is **56**.

**Series Questions**

**6.** Find the next number in the series:  
1, 4, 9, 16, 25, \_\_\_

**Solution:** The series consists of squares of consecutive natural numbers:  
1= 1^2   
4= 2^2   
9= 3^2   
16= 4^2   
25= 5^2

The next number will be 62=366^2 = 3662=36.  
So, the next number is **36**.

**7.** Find the next number in the series:  
1, 8, 27, 64, 125, \_\_\_

**Solution:** This is a series of cubes of natural numbers:  
1= 1^3 1  
8= 2^3 8  
27= 3^3 27  
64= 4^3 64  
125= 5^3 125

The next number will be 6^3=216 6^3 = 216.  
So, the next number is **216**.

**8.** Find the next number in the series:  
5, 10, 20, 40, 80, \_\_\_

**Solution:** The pattern is a **multiplication by 2**:  
5×2=10 5 \times 2 = 10 5×2=10,  
10×2=20 10 \times 2 = 20 10×2=20,  
20×2=40 20 \times 2 = 40 20×2=40,  
40×2=80 40 \times 2 = 80 40×2=80.

The next number will be 80×2=16080 \times 2 = 16080×2=160.  
So, the next number is **160**.

**9.** Find the next number in the series:  
2, 6, 12, 20, 30, \_42\_\_

**Solution:** The differences between consecutive numbers are:  
6−2=4 6 - 2 = 4 6−2=4,  
12−6=6 12 - 6 = 6 12−6=6,  
20−12=8 20 - 12 = 8 20−12=8,  
30−20=10 30 - 20 = 10 30−20=10.

The differences are increasing by 2 each time. So, the next difference will be 10+2=1210 + 2 = 1210+2=12.  
Thus, the next number is 30+12=4230 + 12 = 4230+12=42.  
So, the next number is **42**.

**10. Which number does not belong to the series? 10, 13, 16, 19, 21, 22**

* A) 13
* B) 19
* C) 21
* D) 22

**Solution and Explanation:**

* The series follows a pattern: add 3 to the previous number. The correct series should be 10, 13, 16, 19, 22.
* **Answer:** C) 21

**ASSIGNMENT:**

**1.** Find the odd one out:  
(a) 16  
(b) 25  
(c) 36  
(d) 49  
(e) 60

**2.** Find the odd one out:  
(a) 7, 11, 17, 23  
(b) 4, 9, 16, 25  
(c) 2, 3, 5, 7  
(d) 13, 19, 29, 41

**3.** Find the odd one out:  
(a) 2, 3, 5, 7  
(b) 13, 17, 19, 21  
(c) 11, 13, 17, 19  
(d) 29, 31, 37, 41

**4.** Find the next number in the series:  
5, 10, 20, 40, 80, \_160\_\_

**5.** Find the next number in the series:  
1, 8, 27, 64, 125, \_\_216\_