

1. i)  $q=1$   $R=2$

ii)  $q=3$   $R=0$

iii) Exact divisor, The number

iv) itself

v) itself

vi) one

vii) finite, infinite

viii) Multiple

2. i)  $16 = 1, 2, 4, 8$  and  $16$

ii)  $21 = 1, 3, 7$  and  $21$

iii)  $39 = 1, 3, 13$  and  $39$

iv)  $48 = 1, 2, 3, 4, 6, 8, 12, 16, 24$  and  $48$

v)  $64 = 1, 2, 4, 8, 16, 32$  and  $64$

vi)  $98 = 1, 2, 7, 14, 49$  and  $98$

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3) i)  $4 = 4, 8, 12, 16, 20$  and  $24$

ii)  $9 = 9, 18, 27, 36, 45$  and  $54$

iii)  $11 = 11, 22, 33, 44, 55$  and  $66$

iv)  $15 = 15, 30, 45, 60, 75$  and  $90$

v)  $18 = 18, 36, 54, 72, 90$  and  $80$

vi)  $16 = 16, 32, 48, 64, 80$  and  $96$

4. Since,  $36 = 1 \times 36, 2 \times 18, 3 \times 12, 4 \times 9, 6 \times 6$

Clearly numbers are  $4$  and  $9$  as  $4 \times 9 = 36$

and  $4 + 9 = 13$ .

5. Since  $48 = 1 \times 48, 2 \times 24, 4 \times 12, 6 \times 8$

Clearly numbers are  $4$  and  $12 = 4 \times 12 = 48$

and  $4 + 12 = 16$

6. 6 and 9 are two numbers are different and its product is 54.

7.  $7007 = 7000 + 7$

$$= 7 \times (1000 + 1) = 7 \times 1001$$

Clearly, 7007 is divisible by 7.

8.  $2300023 = 2300000 + 23$

$$= 23 \times (100000 + 1) = 23 \times 100001$$

Clearly, 2300023 is divisible by 23.

9. i)  $11011 = 11000 + 11$

$$= 11 \times (10000 + 1) = 11 \times 10001$$

Clearly, 110011 is divisible by 11.

ii)  $110011 = 110000 + 11$

$$= 11 \times (10000 + 1) = 11 \times 10001$$

Clearly, 100011 is divisible by 11.

$$\text{ii)} \quad 1100011 = 1100000 + 11$$

$$= 11 \times (1000000 + 1) = 11 \times 1000001$$

Clearly,  $1100011$  is divisible by 11

$$10. \quad \text{i)} \quad 1608 = 1600 + 8$$

$$= 8 \times (200 + 1) = 8 \times 201$$

Clearly,  $1608$  is divisible by 8

$$\text{ii)} \quad 56008 = 56000 + 8$$

$$= 8 \times (7000 + 1) = 8 \times 7001$$

Clearly,  $56008$  is divisible by 8

$$\text{iii)} \quad 240008 = 240000 + 8$$

$$= 8 \times (30000 + 1) = 8 \times 30001$$

Clearly,  $240008$  is divisible by 8.