

⑤ Integers between 100 and 200 are
101, 102, 103, ..., 199

(i) nos div. by 9 are
108, 117, 126, ..., 198
 $a = 108, d = 9, a_n = 198$

$$a_n = 198$$

$$a + (n-1)d = 198$$

$$108 + (n-1)9 = 198$$

($\div 9$)

$$12 + n - 1 = 22$$

$$\Rightarrow n = 11$$

$$S_{11} = \frac{11}{2} (108 + 198)$$

$$= \frac{11}{2} \times 306$$

$$= 1683$$

$$= \frac{99}{2} \times \overset{150}{300}$$

$$= 14850$$

Sum of nos between 100 and 200 not divisible by 9

$$= 14850 - 1683$$

$$= 13167$$

(ii) Integers between 100 and 200

101, 102, 103, ..., 199

$a = 101, d = 1$

$$a_n = 199$$

$$a + (n-1)d = 199$$

$$101 + (n-1)1 = 199$$

$$\Rightarrow n-1 = 98$$

$$\Rightarrow n = 99$$

$$S_{99} = \frac{99}{2} (101 + 199)$$