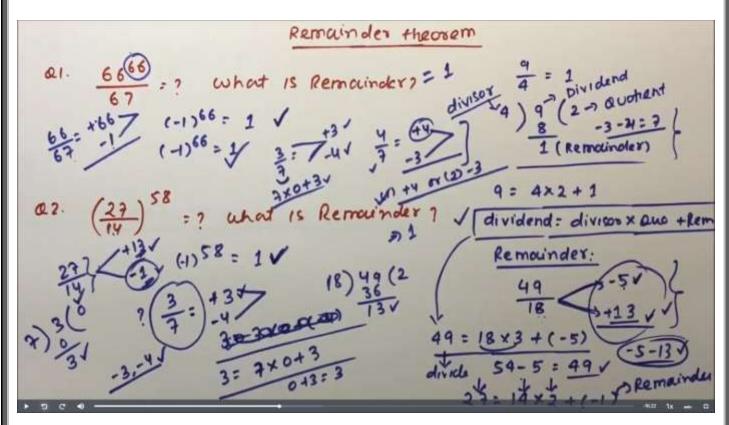
## **Problems on Remainder theorem**



03. 
$$(+1)^{39 \times 75} = ?$$
 $19$ 
 $19$ 
 $19$ 
 $19 \times 2 = 38$ 
 $19 \times 4 = 76$ 
 $19 \times 4 = 76$ 
 $19 \times 4 = 68$ 
 $19 \times$ 

05. 
$$\frac{37^{819} + 2}{38}$$
 what is Remainder?  $\sqrt{\frac{37^{819} + 2}{38}} + \frac{2}{38}$  (30sec)  
 $\sqrt{\frac{37^{819} + 2}{38}} + \frac{2}{38}$  (30sec)  
 $(-1)^{819} + 2 \Rightarrow -1 + 2 \Rightarrow \frac{1}{38}$  Remainder:  $1/\sqrt{\frac{37^{113}}{50}}$  what is the Remainder?  $\frac{9mb}{\sqrt{2}}$  (12)56  $\times$   $\frac{113}{50}$   $\times$   $\frac{113}{50}$   $\times$   $\frac{113}{50}$   $\times$   $\frac{56+1}{50}$   $\times$   $\frac{113}{50}$   $\times$   $\frac{1$ 

27. 
$$(3^{148})$$
 = what is the Remainder?  $(3^2)$ :  $9$ 

$$= \frac{(3^2)^{74}}{5} \frac{(9)^{74}}{5} \frac{148}{5}$$
;  $74$ 

$$= \frac{(3^2)^{74}}{5} \frac{(9)^{74}}{5} \frac{1}{(-1)^{74}} = 1$$

$$= \frac{12^6 - 14}{11} = ?$$
 what is the remainder?
$$(\frac{12^6}{11} - \frac{14}{11} =) (1)^6 - 3 = 1 - 3 = -2$$

$$\frac{(4)^{\frac{77}{3}}}{3} \text{ what is the remainder?} \frac{30 \times 100}{3} = \frac{(2^2)^{\frac{77}{3}}}{3} = \frac{(2^2)^{\frac{77}{3}}}{3} = \frac{154}{3} \times 100 + 4^{100} + 5^{100}$$

$$\frac{(2^3)^{51} \times 2^1}{3} \Rightarrow \frac{(1)^{51} \times 2}{3} = \frac{2}{3} = \frac{2^{100} \times 100}{3} = \frac{11}{3} = 4$$

$$2^{100} + 3^{100} + 4^{100} + 5^{100} = \frac{7}{3} \text{ find the remainder?}$$

$$2^{3 \times 51} \times 2^1 = 2^{153} \times 2^1 = 2^{154}$$

a10. 
$$2^{100} + 3^{100} + 4^{100} + 5^{100}$$
 ; 7 find the Remainder?

$$\Rightarrow \frac{2^{100}}{7} + \frac{3^{100}}{7} + \frac{4^{100}}{7} + \frac{5^{100}}{7} + \frac{4^{100}}{7} + \frac{2^{100}}{7} + \frac{2^$$