



Foundation Batch

MATHS

Remainder Teorem

(शेषफल प्रमेय)

LIVE

11-03-2024 07:00PM





Number System

- **Classification of Numbers**
(संख्याओं का वर्गीकरण)
- **Unit Digit** (इकाई का अंक)
- **Factors** (गुणनखंड)
- **Number of Zero** (शून्यों की संख्या)
- **Rules of Divisibility** (विभाज्यता के नियम)
- **Remender Theorom** (शेषफल परिमेय)

$$\begin{array}{r}
 5 \overline{) 20} \quad (4 \\
 \underline{- 20} \\
 0 \rightarrow \text{શીષકાન}
 \end{array}$$

Remainder

શીષકાન

Dividend
અણક

અણક
Divisor $\leftarrow 10 \right) 42 \left(4 \rightarrow \text{Quotient}$
અણક

40

(2) $\rightarrow$ Remainder
શીષકાન

$27 - 24 = \underline{R=3}$ $27 - 32 = \underline{-5}$ - Negative Rem
 $8 \times 3 = \textcircled{24}$ $8 \times 4 = \textcircled{32}$
 $\frac{27}{8}$ Negative Rem

ex

$\frac{18}{5}$
 $\swarrow \searrow$
 $R=3$ $R=-2$

$\frac{85}{9}$
 $\swarrow \searrow$
 $\underline{\underline{R=4}}$ $R=-5$

क्या शोधफल Negative हो सकता है ?

Yes / No

$$\begin{array}{r} 20 \\ 7 \end{array} \begin{array}{l} \textcircled{-1} \\ \textcircled{7} \end{array}$$

$$7 - 1 = \textcircled{6}$$

$$\begin{array}{r} 20 \\ 7 \end{array} \begin{array}{l} \textcircled{R=6} \\ \textcircled{7} \end{array}$$

$$\begin{array}{r} \textcircled{+3} \\ 18 \end{array} \textcircled{\times} \begin{array}{r} \textcircled{+2} \\ 22 \end{array} = 3 \times 2 = 6$$

$$\begin{array}{r} 6 \\ 5 \end{array}$$

$$\begin{array}{r} 6 \\ 5 \end{array} \textcircled{R=1}$$

$$\begin{array}{r} -2 \\ 18 \end{array} \textcircled{\times} \begin{array}{r} -3 \\ 22 \end{array} = (-2) \times (-3) = +6$$

$$\begin{array}{r} 6 \\ 5 \end{array}$$

$$\begin{array}{r} 6 \\ 5 \end{array} \textcircled{R=1}$$

$$\begin{array}{r} 29 \times 38 \times 46 \\ \hline 7 \end{array}$$

$$+6 \times +4 \times -3 = -72$$

$$= + \quad - \frac{(-72)}{7} R=2 \Rightarrow \textcircled{-2}$$

$$\text{Rem} = 7 - 2 = \textcircled{5}$$

$$\begin{array}{r} +1 \quad +3 \quad +4 \\ 29 \times 38 \times 46 \\ \hline \textcircled{7} \end{array}$$

$$1 \times 3 \times 4 = 12$$

$$\frac{12}{7} \boxed{R=S}$$

$$\begin{array}{r} +1 \quad +3 \quad -5 \\ 29 \times 38 \times 46 \\ \hline 7 \end{array}$$

$$1 \times 3 \times (-3) = -9$$

$$- \left(\frac{9}{7} \right) \boxed{R = -2}$$

$$7 - 2 = \textcircled{5}$$

$$\checkmark \checkmark \quad \begin{array}{r} \textcircled{-1} \quad +1 \quad +1 \\ 32 + 56 + 100 \\ \hline 11 \end{array}$$

$$-\cancel{1} + \cancel{1} + 1 = \underline{\underline{+1}}$$

$$\begin{array}{r} \textcircled{+10} \quad +1 \quad +1 \\ 32 + 56 + 100 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 0 \quad +1 \quad +5 \\ 55 + 45 + 38 \\ \hline 11 \end{array}$$

$$0 + 1 + 5 = 6$$



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TYPE – I



$$\frac{23}{9} \quad R=5$$

1. What will be the remainder when 81815 is divided by 9?

81815 को 9 से विभाजित करने पर शेषफल क्या प्राप्त होगा?

~~(1) 5~~

(2) 3

(3) 0

(4) 4



$$\begin{array}{r} 24 \\ 2468 \\ \hline 37 \end{array}$$

$$\begin{array}{r} 248 \\ 222 \\ \hline R = + 26 \end{array}$$

2. What is the remainder when 2468 is divided by 37?

जब 2468 को 37 द्वारा विभाजित किया जाता है, तब अवशिष्ट क्या होता है?

(a) 26

(b) 36

(c) 18

(d) 14



$$\begin{array}{r} -2 \quad +5 \quad +2 \\ 68 \times 75 \times 37 \\ \hline 35 \end{array}$$

$$\begin{array}{l} -2 \times 5 \times 2 \\ = -20 \end{array}$$

$$\text{Rem} = 35 - 20 = 15$$

3. What will be the remainder when $(68 \times 75 \times 37)$ is divided by 35?

$(68 \times 75 \times 37)$ को 35 से विभाजित करने पर शेषफल क्या होगा?

(1) 16

(2) 15

(3) 34

(4) 21



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$$\begin{array}{r} +1 \quad +6 \quad 9 \\ 14331433 \times 1422 \times 1425 \\ \hline 12 \end{array}$$

$$1 \times 6 \times 9 = 54$$

$$\frac{54}{12} \boxed{R=6}$$

4. If $14331433 \times 1422 \times 1425$ is divided by 12, find the remainder.

यदि $14331433 \times 1422 \times 1425$ को 12 से विभाजित किया जाता है, तो प्राप्त शेषफल ज्ञात करें।

(a) 9

(b) 3

~~(c) 6~~

(d) 8



$$+1 \quad +2 \quad +3$$

$$101 \times 102 \times 103$$

$$10$$

$$1 \times 2 \times 3 = \underline{\underline{6}}$$

5. If $101 \times 102 \times 103$ is divided by 10, what will be the remainder?

यदि $101 \times 102 \times 103$ को 10 से विभाजित किया जाए, तो शेषफल क्या होगा?

(a) 5

(b) 6

(c) 4

(d) 8



$$3 + 10 + 2 + 11$$

$$\frac{26}{9} \quad R = 8$$

6. $\frac{93+82+182+56}{9}$ What will be the

remainder?

$$\begin{array}{r} +3 \quad +1 \quad +2 \quad +2 \\ 93+82+182+56 \\ \hline 9 \end{array}$$

का शेषफल क्या होगा ?

A. 4

B. 5

☒ C. 8

D. 3

8



$$2+1+3+1=7$$

$$\frac{7}{5} \quad (R=2)$$

7. $\frac{1282+3271+9373+5321}{5}$

What

will be the remainder?

$\frac{\overset{+2}{\cancel{1}2}\overset{+1}{\cancel{8}2}+\overset{+1}{\cancel{3}2}\overset{+1}{\cancel{7}1}+\overset{+3}{\cancel{9}3}\overset{+3}{\cancel{7}3}+\overset{+1}{\cancel{5}3}\overset{+1}{\cancel{2}1}}{5}$

का शेषफल

क्या होगा ?

A. 1

☒ B. 2

C. 0

D. 4



2 3 2 3 8. $\frac{342 \times 513 \times 852 \times 683}{17}$ What will
 $\frac{342 \times 513 \times 852 \times 683}{17}$ be the remainder?

$2 \times 3 \times 2 \times 3$

$\frac{36}{17}$ $R=2$

$\frac{342 \times 513 \times 852 \times 683}{17}$ का शेषफल क्या होगा ?

A. 3

B. 4

C. 5

D. 2



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7
~~91~~ × ~~92~~ × ~~93~~ × ~~94~~ × ~~95~~ × ~~96~~ × ~~97~~ × ~~98~~ × ~~99~~

~~1261~~

~~97~~

$$\underline{\underline{R=0}}$$

9. What is the remainder when 91×92

$\times 93 \times 94 \times 95 \times 96 \times 97 \times 98 \times$

99 is divided by 1261 ?

जब $91 \times 92 \times 93 \times 94 \times 95 \times 96 \times 97 \times 98 \times 99$ को 1261 से विभाजित किया जाता है तो शेषफल क्या होता है?

(a) 3

(b) 2

(c) 1

(d) 0

UPSC CSAT

$$\frac{25 \times 78 \times 89}{5}$$

$$\underline{\underline{A_3 = 0}}$$

$$\begin{array}{r} 100 \times 0 \times \\ \underline{\cancel{200} \times 85 \times 108972} \\ \cancel{34} \\ 17 \end{array}$$

$$\textcircled{R = 0}$$



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TYPE – II



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5) $54 \times 138 \times 75 \times 104$

$\frac{54 \times 138 \times 75 \times 104}{85}$

$\frac{54 \times 138 \times 75 \times 104}{85}$

$3 \times 2 \times (-2) \times 2$

-24

$-\left(\frac{24}{17}\right) \boxed{-7 = R}$

$R = 17 - 7 = 10$

Final Rem. = $10 \times 5 = 50$

10. $\frac{54 \times 138 \times 75 \times 104}{85}$ What will be the remainder?

$\frac{54 \times 138 \times 75 \times 104}{85}$ का शेषफल क्या होगा?

A. 49

B. 51

C. 50

D. 52



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$$\frac{172 \times 102 \times 197 \times 77 \times 123}{100}$$

$$\begin{array}{r} 100 \\ 25 \end{array}$$

find remainder. शेषफल ज्ञात करें.

$$-7 \times 2 \times (+3) \times 2 \times (+2)$$

a. 7

b. -7

c. -168

d. None of these above

$$42 \times 4$$

$$\begin{array}{r} -168 \\ \hline 25 \end{array}$$

$$-18 = R$$

$$R = 25 - 18 = 7$$

$$\text{Real Rem.} = 7 \times 4 = 28$$



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4.

$$27 \times 1730 \times 1252 \times 52$$

$$48$$

~~48~~

12

find remainder. शेषफल ज्ञात करें.

a. 4

~~b. 0~~

c. 3

d. None of these above

$$3 \times 2 \times 4 \times 1$$

=

$$\frac{24}{12}$$

$$R = 0$$

$$\text{Real Rem.} = 0 \times 4 = 0$$



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1-12
13. What is the remainder when $85 \times 87 \times 89 \times 91 \times 95 \times 96$ is divided by 100?

जब $85 \times 87 \times 89 \times 91 \times 95 \times 96$ को 100 से विभाजित किया जाता है तो शेषफल क्या होता है?

- a. 0 b. 1
c. 2 d. 4