

⇒ प्रथम 150 पूर्ण संख्याओं के योग का इकाई अंक = ?

(a) 9

(c) 0

(b) 5

(d) 1

प्राकृत संख्या → 1, 2, 3, ... ∞

पूर्ण संख्या → 0, 1, 2, 3, ... ∞

$$\frac{n(n-1)}{2}$$

$$\Rightarrow \frac{75 \times 149}{1}$$

$$\Rightarrow 75 \times 149$$

$$\textcircled{15}$$

$$\frac{5 \times 6}{2} \Rightarrow 15$$

1, 2, 3, 4, 5 - - - n

प्रथम n प्राकृत संख्याओं का योग $\Rightarrow \frac{n(n+1)}{2}$

प्रथम n पूर्ण संख्याओं का योग $\Rightarrow \frac{n(n-1)}{2}$

0, 1, 2, 3, 4 - - -

$$\textcircled{n=5}$$

$$\frac{5 \times 4}{2} \Rightarrow 10$$

First 4 whole No $\rightarrow 0, 1, 2, 3$
પ્રથમ 4 પૂર્ણ સંખ્યા $\rightarrow$

First 5 natural No $\rightarrow 1, 2, 3, 4, 5$
પ્રથમ 5 પ્રાકૃત સંખ્યા =

Remainder thm. (शेषफल प्रमेय)

$$\frac{13}{5}, R=3$$

$$\begin{array}{r} 5 \overline{)13} 2 \\ \underline{10} \\ 3 \end{array} \rightarrow \text{शेषफल}$$

$$\Rightarrow \frac{\overset{1}{13} + \overset{1}{17}}{4}, R=? \quad \frac{30}{4}, \boxed{R=2}$$

②

भाजक
(Divisor)

$$\begin{array}{r} 8 \overline{) 5076} \\ \underline{48} \\ 2 \end{array}$$

भागफल (Quotient)

भाज्य (Dividend)

शेषफल (Remainder)

$$\begin{aligned} \text{Dividend} &= \text{Divisor} \times \text{Quotient} + \text{Remainder} \\ \text{भाज्य} &= \text{भाजक} \times \text{भागफल} + \text{शेषफल} \end{aligned}$$

$$78 = 12 \times 6 + 6$$

$$\begin{array}{r} 13 \\ \hline 78 \\ \hline 12 \\ \hline 2 \end{array}, R = ? 6$$

$$\begin{array}{r} 12 \overline{) 78} 6 \\ \underline{72} \\ 6 \end{array}$$

$$\frac{13}{2}, R = 1 \times 6 \Rightarrow 6$$

$$\begin{array}{r} 33 \\ 2 \overline{) 99} \\ \underline{6} \end{array}, R = ?$$

$$\begin{array}{r} 33 \\ 2 \overline{) 33} \end{array}, R = 1 \times 3 \Rightarrow 3$$

$$\begin{array}{r} 6 \overline{) 9946} \\ \underline{6} \\ 39 \\ \underline{36} \\ 23 \end{array}$$

Result

$$\begin{array}{r} \text{Qu} \\ 17 \\ 6 \overline{) 17} \end{array} \quad R=?$$

$$(-) \times (-) = +$$

$$(-) \times (+) = -$$

$$(+) \times (+) = +$$

$$\begin{array}{r} -1 \\ 6 \overline{) 6} \\ \boxed{6-1=5} \end{array}$$

* Remainder कभी भी
minus(-) में नहीं हो
सकता।

$$\frac{23}{6}$$

6-1*5

Note

* शीघ्रफल कभी भी
भाजक (divisor) से बड़ा
नहीं हो सकता।

$$\textcircled{1} \quad \begin{array}{r} 0+1+2+3+4 \\ 72+73+74+75+76 \\ \hline \end{array}, R=? \quad \frac{10}{12}$$

$$\begin{array}{r} \quad \quad \quad 12 \\ \cancel{3} \times \cancel{4} \times \cancel{5} \times \cancel{6}^2 \\ 93 \times 94 \times 95 \times 96 \\ \hline 4548 \end{array}, R=?$$

$$\frac{180}{20}, R=? \quad \textcircled{2}$$

$$\frac{360}{45} \Rightarrow \frac{40}{5} \Rightarrow 0$$

$$20 \overline{)180} \begin{array}{r} 9 \\ 180 \\ \hline 0 \end{array} \quad \textcircled{3}$$

$$\begin{array}{r} \quad \quad \quad 1 \times 2 \times 3 \\ 1891 \times 1892 \times 1893 \\ \hline 9 \end{array}, R=?$$

$$9 \overline{)1891} \begin{array}{r} 21 \\ 18 \\ \hline 9 \\ 9 \\ \hline 1 \end{array} \quad \textcircled{6}$$

$$\begin{array}{r} 11 \overline{) 135} \text{ R } 12 \\ \underline{11} \\ 25 \\ \underline{22} \\ 3 \end{array}$$

$$\textcircled{1} \quad \frac{3 \times 2 \times 5 \times 2}{11} = R = ? \quad \frac{60}{11} \quad \textcircled{R=5}$$

$$\textcircled{2} \quad \frac{8 \times 1 \times 4 \times 7}{17} = R = ? \quad \frac{8 \times 11}{17} = \frac{88}{17}$$

$$\begin{array}{r} 17 \overline{) 1021} \text{ R } 6 \\ \underline{102} \\ 1 \end{array} \rightarrow 214$$

$$\frac{88}{17} \Rightarrow \textcircled{3} \quad R = ?$$

$$\begin{array}{r}
 +15 \times 4 \\
 \overbrace{-3 \times (-5)} \times \overbrace{4 \times 1} \\
 147 \times 220 \times 469 \times 826 \\
 \hline
 15
 \end{array}
 \quad R=?$$

$$\boxed{R=0}$$

$$\Rightarrow \frac{887 \times 886 \times 1684 \times 1682}{8} \quad R=?$$

Diagram showing the prime factorization of the numerator terms:

- $887 = 7 \times 127$ (indicated by a bracket labeled 42)
- $886 = 2 \times 443$ (indicated by a bracket labeled 8)
- $1684 = 4 \times 421$ (indicated by a bracket labeled 8)
- $1682 = 2 \times 841$ (indicated by a bracket labeled 4)

$$\frac{336}{8}$$

$$\frac{16}{8} = R = 0$$

$$R = 0$$

$$\Rightarrow \frac{-1 \times 2 \times 2}{1341 \times 1344 \times 156}, R=?$$

$$\frac{-4}{11} \Rightarrow 11-4 \Rightarrow 7 \textcircled{R}$$