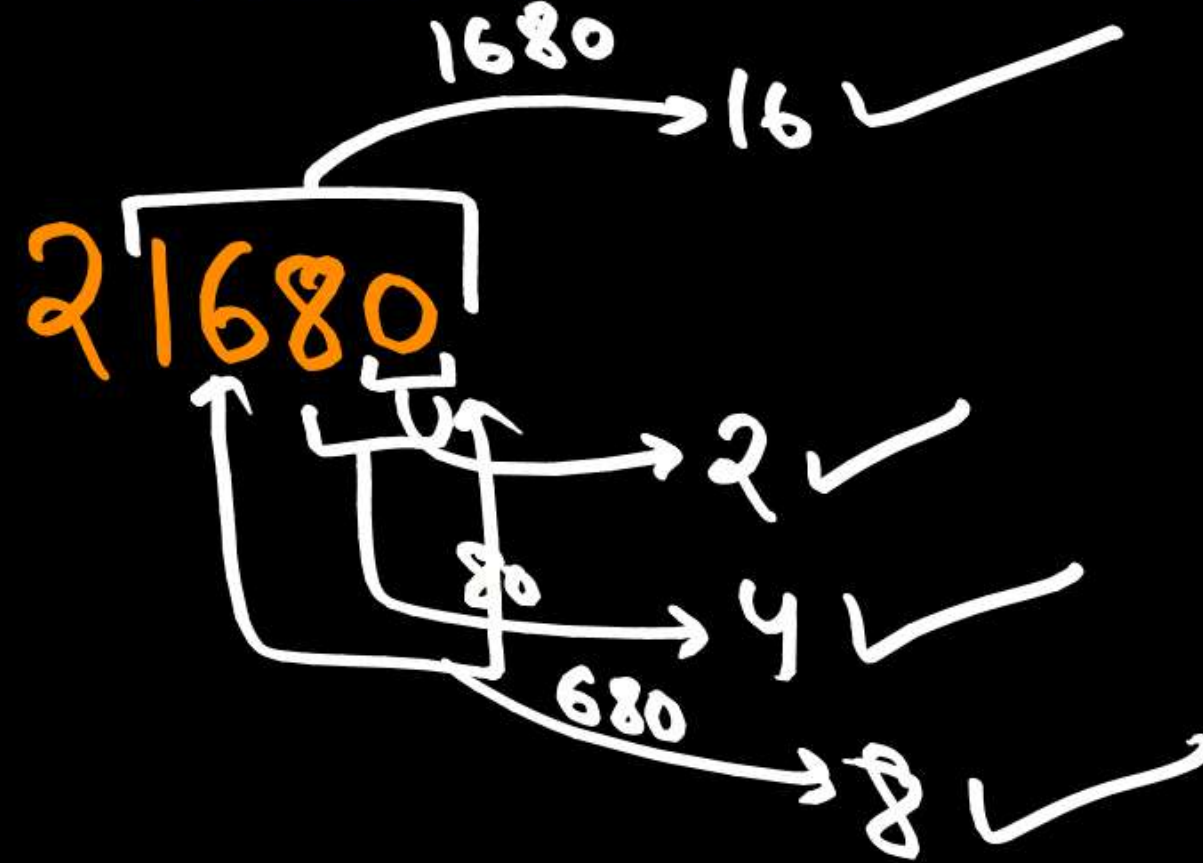


Divisibility Rules (विभाज्यता नियम)

Divisibility Rules (विभाज्यता नियम)

- Rules for (2^P , 5^P , 3^P , 6, 7, 11, 13)

21680 $\div 2^P$



$\div 2$ ✓
 $\div 4$ ✓
 $\div 8$ ✓
 $\div 16$ ✓

2^P

$2^1 \rightarrow 2 \rightarrow$ Last 1 Digit
 $2^2 \rightarrow 4 \rightarrow$ " 2 "
 $2^3 \rightarrow 8 \rightarrow$ " 3 "
 $2^4 \rightarrow 16 \rightarrow$ " 4 "
:
:

- Rules for (2^P , 5^P , 3^P , 6, 7, 11, 13)

$$36216 \div 2^P$$



$$\div 2 \checkmark$$

$$\div 4 \checkmark$$

$$\div 8 \checkmark$$

$$\div 16 \times$$

- Rules for (2^P , 5^P , 3^P , 6, 7, 11, 13)

123405 $\div 5^P$

$\div 5 \checkmark$

$\div 25 \times$

$5^1 \rightarrow 5$

Last Digit

1

$5^2 \rightarrow 25$

2

$5^3 \rightarrow 125$

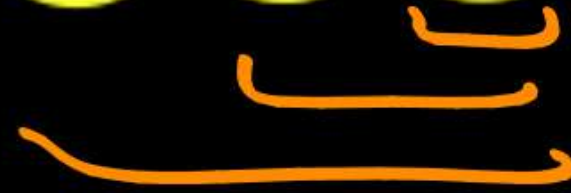
3

$5^4 \rightarrow 625$

4

- Rules for (2^P , 5^P , 3^P , 6, 7, 11, 13)

$$623850 \div 5^P$$



$$\div 5 \checkmark$$

$$\div 25 \checkmark$$

$$\div 125 \times$$

$$\div 625 \times$$

$$\div 3125 \times$$

- Rules for (2^p , 5^p , 3^p , 6, 7, 11, 13)

~~123456~~ ÷ 3

÷ 3 ✓

- Rules for (2^P , 5^P , 3^P , 6, 7, 11, 13)

~~4~~~~2~~~~3~~~~4~~~~2~~~~3~~ ÷ 3⁴

÷ 3 ✓

- Rules for (2^P , 5^P , 3^P , 6, 7, 11, 13)

$$3423 \div 7$$

$$423 - 3 = 420 \div 7 \checkmark$$

- Rules for $(2^p, 5^p, 3^p, 6, 7, 11, 13)$

1123423 ÷ 7

$$\begin{array}{r} 1123 \\ - 423 \\ \hline 700 \end{array} \div 7 \checkmark$$

$$\begin{array}{r} \div 7 \checkmark \\ \div 13 \checkmark \end{array}$$

Q. Number 8

123313213

$$\begin{array}{r} 336 \\ - 313 \\ \hline 23 \end{array}$$

$$\begin{array}{l} \div 7 \times \\ \div 13 \times \end{array}$$

- Rules for (2^p , 5^p , 3^p , 6, 7, 11, 13)

~~7~~~~3~~~~2~~~~9~~~~7~~~~5~~~~3~~ ÷ 9

÷ 9 ✓

11 का Rule

501952

0
÷ 11 ✓

11 का Rule ¹⁶

4020379

7

9

÷ 11 X

11 का Rule ²²

35795375

22

0

÷11 ✓

11 का Rule

359247615447536915

$\underbrace{359247615447536915}$
 $\begin{matrix} -2 & 7 & -3 & 8 & 1 & -2 & 2 & -2 & -4 \end{matrix}$

0
 $\div 11 \checkmark$

13 का Rule

7098

$$\begin{array}{r} 098 \\ - 7 \\ \hline 91 \end{array} \div 13 \checkmark$$

13 का Rule

46306



$$260 \div 13 \checkmark$$

13 का Rule

474799



$$325 \div 13 \checkmark$$

$$\div 13 \checkmark$$

ब्रह्म. No. ३

4132838759387



$$+4 \quad +706 \quad - \quad 372$$

$$710-372$$

$$338 \div 13$$

$$\div 13 \checkmark$$

Rule of 143

4132838759387

+1 +4+3-1 -4-3 +1 +4+3 -1 -4-3 +1

4 4 9 -2 -32 -9 +8 +28 +15 -9 -12 -24 +7

-13 ÷ 13 ✓

Divisibility Check for Composite Number

$$6 \rightarrow 2 \times 3$$

$$12 \rightarrow (2^2) \times 3$$

$$4 \times 3 \checkmark$$

$$18 \rightarrow 2 \times 3^2$$

$$2 \times 9 \checkmark$$

$$28 \rightarrow 4 \times 7$$

Divisibility Rule खुद बनाने का Oscillator Method

- ↳ Last में 9, + वाला Rule
- ↳ Last में 1, - वाला Rule
- ↳ Last में 9 या 1 नहीं

39 का Rule

9204

$$39 + 1 \rightarrow 40$$

R.D + last digit $\times 4$

$$\begin{array}{r} 920 \\ + 16 \\ \hline 936 \end{array}$$

$$\begin{array}{r} + 93 \\ 24 \\ \hline 117 \end{array} \div 39 \checkmark$$

39 का Rule

49335

20

4957

12

507

28

78

÷ 39 ✓

39 का Rule

84084

79 का Rule

$$79 \xrightarrow{+1} 80$$

$$\text{R.D} + \text{L.D} \times 8$$

18644 ✓

32

1898

48

237

56

79

÷ 79 ✓

79 का Rule

517371

79 का Rule

431498

59 का Rule

$$59 \xrightarrow{+1} 60$$

$$\text{R.D} + 2 \cdot \text{D} \times 6$$

33571

$$\begin{array}{r} 3367 \\ 18 \\ \hline 354 \\ 24 \\ \hline 59 \end{array} \div 59 \checkmark$$

59 का Rule

38881

59 का Rule

322671

1 वां Rule

$$21 \xrightarrow{-1} 20$$

$$31 \xrightarrow{-1} 30$$

$$41 \xrightarrow{-1} 40$$

$$51 \xrightarrow{-1} 50$$

$$61 \xrightarrow{-1} 60$$

$$71 \xrightarrow{-1} 70$$

$$81 \xrightarrow{-1} 80$$

$$91 \xrightarrow{-1} 90$$

Rule

$$R \cdot D - L \cdot D \times 2$$

$$R \cdot D - L \cdot D \times 3$$

$$R \cdot D - L \cdot D \times 4$$

$$R \cdot D - L \cdot D \times 5$$

$$R \cdot D - L \cdot D \times 6$$

$$R \cdot D - L \cdot D \times 7$$

$$R \cdot D - L \cdot D \times 8$$

$$R \cdot D - L \cdot D \cdot 9$$

last 1209
नहीं

27 का Rule

$$27 \times 3 \rightarrow 81$$

R.D - L.D $\times 8$

11502

$$\begin{array}{r} 1134 \\ 32 \\ \hline 81 \end{array} \div 27 \checkmark$$

27 का Rule

17658

1701
162 ✓
÷27

27 का Rule

25542

17 का Rule

$$12 \times 3 \rightarrow 51$$

R.D - L.D $\times 5$

782

$$\begin{array}{r} \text{782} \\ -10 \\ \hline 68 \end{array} \div 17 \checkmark$$

17 का Rule

3128

40

272

10

17



17 का Rule

3604

23 का Rule

$$23 \times 3 \rightarrow 69$$

$$R.D + L.D \times 7$$

14306

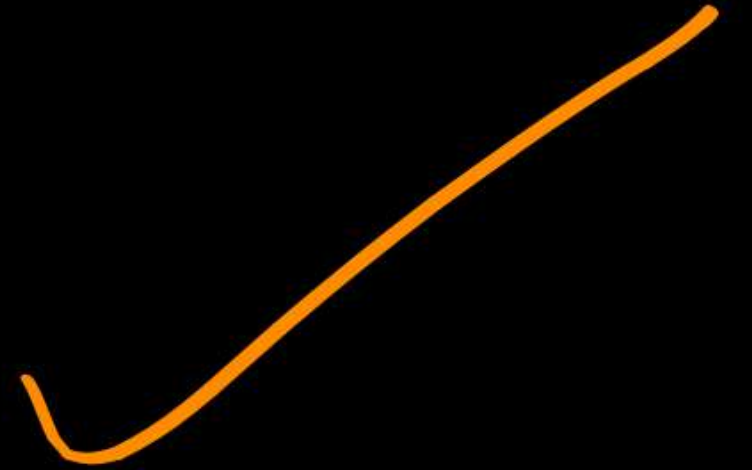
42

1472

14

161

$\div 23$



23 का Rule

9798

23 का Rule

15042

43 का Rule

22532

$$43 \times 3 \rightarrow 129$$

$$R.D + L.D \times 13$$

43 का Rule

20812

43 का Rule

14018

- **Special Divisibility Rule for 101**

6911026

117 - 16

101 ÷ 101 ✓

- **Special Divisibility Rule for 101**

56358



$$63 - 63 = 0$$

$\div 101 \checkmark$

- **Special Divisibility Rule for 101**

457732



$\div 101$

- **Special Divisibility Rule for 1001**

5468463



$$463 + 5 - 468 = 0$$

$\div 1001 \checkmark$

- **Special Divisibility Rule for 1001**

2458456

$\div 1001 \checkmark$

- 99, 999, 9999 का Divisibility Rule

99 का Rule

$$\underbrace{134244114246}_{198} \div 99$$

$$198 \div 99 \checkmark$$

- 99, 999, 9999 का Divisibility Rule

99 का Rule

$$\underline{124146114345} \div 99$$

$$198 \div 99 \checkmark$$

999 का Rule

589865544



$$1998 \div 999 \checkmark$$

999 का Rule

579876543



1999

÷ 999 ✓

9999 का Rule

$$652587344739 \div 9999$$



19998

$\div 9999 \checkmark$

- **111, 1111, का Divisibility Rule**

111 का Rule

$$579876543 \div 111$$

$$1998$$

$$999 \div 111 \checkmark$$

- **111, 1111, का Divisibility Rule**

111 का Rule

$$\underbrace{701987976}_{\text{701}} \div 111$$

$$\begin{array}{r} 2664 \\ \hline 666 \end{array} \div 111 \checkmark$$

1111 का Rule

$$\underbrace{652587344739}_{19998} \div 1111$$

19998

$$9999 \div 1111 \checkmark$$

1111 का Rule

$$763687344739 \div 1111$$

'n' Substitution Method (प्रतिस्थापन विधि)

- 10 second method:

$$0.\underbrace{4} + 0.\underbrace{44} + 0.444 + \dots + n \text{ times}$$

$$\textcircled{A} \frac{4}{9} \left[8n - 1 + \frac{1}{10^n} \right] = \frac{4}{9} (7.1) \times$$

$$n=1 \quad 0.4$$

$$\underline{n=2} \quad \underline{0.84}$$

$$\checkmark \textcircled{B} \frac{4}{81} \left[9n - 1 + \frac{1}{10^n} \right] = \frac{4}{81} (81) = 0.4$$

$$\textcircled{C} \frac{4}{81} \left[9n - 1 - \frac{1}{10^n} \right]$$

$$\textcircled{D} \frac{4}{9} \left[8n - 1 - \frac{1}{10^n} \right]$$

- **10 second method:**

$$(1) + (2+3+4) + (5+6+7+8+9) + \dots \underline{n \text{ bracket}} = ?$$

$$n=1 \quad 1$$

$$n=2 \quad 10 \checkmark$$

~~(A) $\frac{n(n+1)(n+2)}{6}$~~ ✗

~~(B) $\frac{n^2(n^2+1)}{2}$~~ ✓ **(B)**

~~(C) $n(n+1)(n+2)$~~

~~(D) $\frac{n(n+1)(2n+1)}{6}$~~