

CSAT (MATHS)

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Maths

~~General Arithmetic~~

• Percentage, PLD

Interest

• Average & Alligation

• Ratio & proportion

• Time & work
• TSD.

Number System
+ LCM & HCF.

(लक्या प ह्दति)

15 ph

7-8

permutation
&
combination

(द्वनचयस
सिचय)

Integers (पूर्णांक)

$\dots -2, -1, 0, 1, 2, 3, \dots$

Even (एक)

$\pm 2, \pm 4, \pm 6, \dots$

$\boxed{0}$

Odd (विषम)

$\pm 1, \pm 3, \pm 5, \dots$

Number System

Natural number
(प्राकृत संख्या)

$1, 2, 3, 4, 5, \dots$

Whole No.

(पूर्व संख्या)

$0, 1, 2, 3, \dots$

Irrational number

अपरीमेय संख्या

$$\frac{p}{q} \times \frac{p_1}{q_1} = \frac{p \times p_1}{q \times q_1}$$

$$\sqrt{2}, \sqrt{3}, 2 + \sqrt{3},$$
$$-\sqrt{11}, \frac{\sqrt{3}}{5}, \frac{3}{\sqrt{5}}, \dots$$

Rational number

परीमेय संख्या

$$\frac{p}{q}, q \neq 0, p \in \mathbb{Z}$$

$$\frac{5}{3}, -\frac{5}{17}, \frac{4}{1}, -\frac{5}{1}, \dots$$

Terminating Decimal

अणुलान दशमलु

$$\frac{4}{5} = 0.8$$

Non-terminating

Recurring decimal

$$\frac{8}{3} = 2\frac{2}{3}$$

$$= 2.66666 \dots$$

$$= 2.\overline{6}$$

अणुलान दशमलु

Irrational number

$$\begin{array}{r} 29 \\ 012 \overline{) 319419} \end{array}$$

$$\begin{array}{r} 26 \\ 31019 \overline{) 321009} \end{array}$$

$$\sqrt{2} = 1.41421356237 \dots$$

Non-terminating
non-recurring
decimal.

$$\begin{array}{r} \sqrt{3} + \sqrt{5} \\ \hline 2 + \sqrt{3} + 2 - \sqrt{3} \\ \hline = 4 \end{array}$$

$$2 - 3 = 1 \quad 2 - 3 = 0 \quad 4 - 0 = 4 \quad 0 - 3 = -3 \quad 2 - 9 = -7 \quad 2 - 2 = 0$$

①

Naturalno (प्राकृत संख्या)

prime

(अभाज्य)

Composit

(भाज्य)

② 2, 3, 5, 7, 11,
13, - - -

X

$$\sqrt{247} < 16$$

$$\begin{array}{r} 247 \\ \hline \end{array}$$

2, 3, 5, 7, 11, 13

$$4 = 2^2$$

$$6 = 2 \times 3$$

$$8 = 2^3$$

$$9 = 3^2$$

$$10 = 2 \times 5$$

$$12 = 2^2 \times 3$$

$$14 = 2 \times 7$$

1
1
1

$$\sqrt{151} < \underline{13}$$

151

2, 3, 5, 7, 11

$$\begin{array}{r} 2 \overline{) 12} \\ 6 \\ 2 \overline{) 6} \\ 3 \end{array}$$

$$(1 + 2^1 + 2^2)(1 + 3)$$

$$= 1 + 3 + 2 + 6 + 4 + 12$$

$$\begin{aligned} 12 &= 6 \times 2 \\ &= 3 \times 2 \times 2 \\ &= 2^2 \times 3^1 \end{aligned}$$

$$\begin{aligned} \text{No. of factors} &= (2+1)(1+1) \\ &= 3 \times 2 = 6 \end{aligned}$$

$$N = p^a \times q^b \times r^c$$

(সিদ্ধান্ত)

p, q, r

সিদ্ধান্ত

(prime)

$$\text{No. of factors} = (a+1)(b+1)(c+1)$$

$$a_m + a_n = a_{m+n}$$

$$\frac{a_m}{a_n} = a_{m-n}$$

$$(a_m)^n = a_{mn}$$

$$(a^n)^m = a^{n \cdot m}$$

Proof:

$$2 \infty = 50 \times 4$$

$$= 25 \times 2 \times 2^2$$

$$= 5^2 \times 2^3$$

$$= 2^3 \times 5^2$$

$$N_0 = (3+1)(2+1)$$

$$= 12$$

prob: $30 \sim 30 \times 10$

$$= 6 \times 5 \times 2 \times 5$$

$$= 2 \times 3 \times 5 \times 2 \times 5$$

$$= 2^2 \times 3^1 \times 5^2$$

$$N_0 = (2+1)(1+1)(2+1)$$

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

$$= 18$$

$$\begin{array}{r}
 72w \\
 \hline
 2 \quad 36w \\
 \hline
 2 \quad 18w \\
 \hline
 1
 \end{array}$$

prob: $72w = 72 \times 1w$

$$= 8 \times 9 \times 4 \times 25$$

$$= 2^3 \times 3^2 \times 2^2 \times 5^2$$

$$= 2^5 \times 3^2 \times 5^2$$

$$No. = (5+1)(2+1)(2+1)$$

$$= 6 \times 3 \times 3$$

$$= \underline{54}$$

Factors/Divisors

25019 (25019)



Multiple

(25019)

