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MATHEMATICAL SYMBOLS

Basic math symbol

mantrakshar	HINDI	Symbol Name	Meaning / definition	Example
=	बराबर चिह्न	equals sign	equality	$5 = 2+3$; 5 is equal to 2+3
$\neq$	असमान चिह्न	not equal sign	inequality	$5 \neq 4$; 5 is not equal to 4
$\approx$	लगभग समान	approximately equal	approximation	$\sin(0.01) \approx 0.01$, $x \approx y$ means x is approximately equal to y
>	सख्त असमानता	strict inequality	greater than	$5 > 4$; 5 is greater than 4
<	सख्त असमानता	strict inequality	less than	$4 < 5$; 4 is less than 5
$\geq$	असमानता	inequality	greater than or equal to	$5 \geq 4$, $x \geq y$ means x is greater than or equal to y
$\leq$	असमानता	inequality	less than or equal to	$4 \leq 5$, $x \leq y$ means x is less than or equal to y
()	छोटा कोष्ठक	parentheses	calculate expression inside first	$2 \times (3+5) = 16$
{ }	मझला कोष्ठक	flower brackets		
[]	बड़ा कोष्ठक	brackets	calculate expression inside first	^[1] = 18
+	प्लस चिह्न	plus sign	addition	$1 + 1 = 2$
-	घटाव चिह्न	minus sign	subtraction	$2 - 1 = 1$
$\pm$	जोड़- घटाव चिह्न	plus - minus	both plus and minus operations	$3 \pm 5 = 8$ or -2
$\mp$	घटाव -जोड़ चिह्न	minus - plus	both minus and plus operations	$3 \mp 5 = -2$ or 8
*	तारांकन	asterisk	multiplication	$2 * 3 = 6$
x		times sign	multiplication	$2 \times 3 = 6$
.	गुणन बिंदु	multiplication dot	multiplication	$2 \cdot 3 = 6$
÷	विभाजन चिह्न	division sign / obelus	division	$6 \div 2 = 3$
/		division slash	division	$6 / 2 = 3$
—	क्षैतिज रेखा	horizontal line	division / fraction	$\frac{6}{2} = 3$
mod	सापेक्ष	modulo	remainder calculation	$7 \bmod 2 = 1$
.	अवधि	period	decimal point, decimal separator	$2.56 = 2 + 56/100$
ab	शक्ति	power	exponent	$2^3 = 8$
a^b	कैरट	caret	exponent	$2^3 = 8$
$\sqrt{a}$	वर्गमूल	square root	$\sqrt{a} \cdot \sqrt{a} = a$	$\sqrt{9} = \pm 3$
$\sqrt[3]{a}$	घनमूल	cube root	$\sqrt[3]{a} \cdot \sqrt[3]{a} \cdot \sqrt[3]{a} = a$	$\sqrt[3]{8} = 2$

mantrakshar	HINDI	Symbol Name	Meaning / definition	Example
$4\sqrt{a}$	चौथी जड़	fourth root	$4\sqrt{a} \cdot 4\sqrt{a} \cdot 4\sqrt{a} \cdot 4\sqrt{a} = a$	$4\sqrt{16} = \pm 2$
$n\sqrt{a}$	n-वें रूट (कट्टरपंथी)	n-th root (radical)		for $n=3$, $n\sqrt{8} = 2$
%	प्रतिशत	percent	$1\% = 1/100$	$10\% \times 30 = 3$
‰	प्रति-मिली	per-mille	$1\text{‰} = 1/1000 = 0.1\%$	$10\text{‰} \times 30 = 0.3$
ppm	प्रति मिलियन	per-million	$1\text{ppm} = 1/1000000$	$10\text{ppm} \times 30 = 0.0003$
ppb	प्रति अरब	per-billion	$1\text{ppb} = 1/1000000000$	$10\text{ppb} \times 30 = 3 \times 10^{-7}$
ppt	प्रति ट्रिलियन	per-trillion	$1\text{ppt} = 10^{-12}$	$10\text{ppt} \times 30 = 3 \times 10^{-10}$

Geometry symbols

Mantrakshar	Hindi	Symbol Name	Meaning / definition	Example
$\angle$	कोण	angle	formed by two rays	$\angle ABC = 30^\circ$
	मापा कोण	measured angle		$\angle ABC = 30^\circ$
	गोलाकार कोण	spherical angle		$\angle AOB = 30^\circ$
L	समकोण	right angle	$= 90^\circ$	$\alpha = 90^\circ$
°	अंश	degree	$1 \text{ turn} = 360^\circ$	$\alpha = 60^\circ$
deg	अंश	degree	$1 \text{ turn} = 360\text{deg}$	$\alpha = 60\text{deg}$
'	प्रधान	prime	arcminute, $1^\circ = 60'$	$\alpha = 60^\circ 59'$
"	द्वि प्रधान	double prime	arcsecond, $1' = 60''$	$\alpha = 60^\circ 59' 59''$
	रेखा	line	infinite line	
AB	रेखा खंड	line segment	line from point A to point B	
	किरण	ray	line that start from point A	
	वृत्त चाप	arc	arc from point A to point B	$= 60^\circ$
$\perp$	लंब	perpendicular	perpendicular lines (90° angle)	$AC \perp BC$
$\parallel$	समानांतर	parallel	parallel lines	$AB \parallel CD$
$\cong$	सर्वगसम	congruent to	equivalence of geometric shapes and size	$\triangle ABC \cong \triangle XYZ$
$\sim$	समानता / समरूप	similarity	same shapes, not same size	$\triangle ABC \sim \triangle XYZ$
Δ	त्रिकोण	triangle	triangle shape	$\triangle ABC \cong \triangle BCD$
$\$ \{ x-y \} \$$	दूरी	distance	distance between points x and y	$\$ \{ x-y = 5 \} \$$
π		pi constant	$\pi = 3.141592654...$ is the ratio between the circumference and diameter of a circle	$c = \pi \cdot d = 2 \cdot \pi \cdot r$
rad		radians	radians angle unit	$360^\circ = 2\pi \text{ rad}$
c		radians	radians angle unit	$360^\circ = 2\pi c$
grad		gradians / gons	grads angle unit	$360^\circ = 400 \text{ grad}$

Algebra symbols

- [ALGEBRA](#)

Probability and statistics symbols

- [Probability and statistics](#)

Combinatorics Symbols

HINDI	symbol	Symbol Name	Meaning / definition	Example
	$n!$	factorial	$n! = 1 \cdot 2 \cdot 3 \cdot \dots \cdot n$	$5! = 1 \cdot 2 \cdot 3 \cdot 4 \cdot 5 = 120$
	nPk	permutation	${}_nP_k = \frac{n!}{(n-k)!}$	$5P3 = 5! / (5-3)! = 60$
	nCk	combination	${}_nC_k = \binom{n}{k} = \frac{n!}{k!(n-k)!}$	$5C3 = 5! / [3!(5-3)!] = 10$

set theory symbols

SET THEORY SYMBOLS

logic symbols

Hindi	Symbol	Symbol Name	Meaning / definition	Example
	$\cdot$	and	and	$x \cdot y$
		caret / circumflex	and	$\$ x^y \$$
	$\&$	ampersand	and	$x \& y$
	$+$	plus	or	$x + y$
	$\vee$	reversed caret	or	$x \vee y$
	$\sqcup$	vertical line	or	$x \sqcup y$
	x'	single quote	not - negation	x'
	$\bar{x}$	bar	not - negation	$\bar{x}$
	$\neg$	not	not - negation	$\neg x$
	$!$	exclamation mark	not - negation	$! x$
	$\oplus$	circled plus / oplus	exclusive or - xor	$x \oplus y$
	$\sim$	tilde	negation	$\sim x$
	$\Rightarrow$	implies		
	$\Leftrightarrow$	equivalent	if and only if (iff)	
	$\leftrightarrow$	equivalent	if and only if (iff)	
	$\forall$	for all		
	$\exists$	there exists		
	$\nexists$	there does not exists		
	$\therefore$	therefore		
	$\because$	because / since		

calculus and analysis symbols

- [CALCULUS AND ANALYSIS](#)

1) $1+2) \times (1+5$

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