



## Class-IX MATHS

## Class-X MATHS

NUMBERS			
A.1	Classify numbers	A.4	Convert between decimals and fractions
A.2	Compare and order rational numbers	A.5	Square roots
A.3	Number lines	A.6	Cube roots
OPERATIONS			
B.1	Add, subtract, multiply and divide integers	B.5	Multiply and divide rational numbers
B.2	Evaluate numerical expressions involving integers	B.6	Evaluate numerical expressions involving rational numbers
B.3	Evaluate variable expressions involving integers	B.7	Evaluate variable expressions involving rational numbers
B.4	Add and subtract rational numbers		
RATIOS, RATES AND PROPORTIONS			
C.1	Identify equivalent ratios	C.4	Unit prices
C.2	Write an equivalent ratio	C.5	Solve proportions
C.3	Unit rates	C.6	Solve proportions: word problems
		C.7	Scale drawings: word problems
PERCENTS			
D.1	Convert between percents, fractions and decimals	D.5	Percent of change: word problems
D.2	Solve percent equations	D.6	Percent of a number: VAT, discount and more
D.3	Percent word problems	D.7	Find the percent: discount and mark-up
D.4	Percent of change	D.8	Multi-step problems with percents
MEASUREMENT			
E.1	Convert rates and measurements	E.4	Minimum and maximum area and volume
E.2	Precision	E.5	Percent error
E.3	Greatest possible error	E.6	Percent error: area and volume
LINES AND ANGLES			
F.1	Transversals: name angle pairs	F.3	Angles complementary, supplementary, vertical, adjacent and congruent angles
F.2	Transversals of parallel lines: find angle measures	F.4	Find measures of complementary, supplementary, vertical and adjacent angles
TRIANGLES			
G.1	Classify triangles	G.7	Midsegments of triangles
G.2	Triangle angle-sum property	G.8	SSS, SAS and ASA Theorems
G.3	Exterior angle property	G.9	SSS Theorem in the coordinate plane
G.4	Exterior angle inequality	G.10	Congruency in isosceles and equilateral triangles
G.5	Angle-side relationships in triangles	G.11	Hypotenuse-Leg Theorem
G.6	Triangle Inequality Theorem		
QUADRILATERALS			
H.1	Classify quadrilaterals	H.6	Properties of squares and rectangles
H.2	Graph quadrilaterals	H.7	Properties of trapeziums
H.3	Properties of parallelograms	H.8	Properties of kites
H.4	Proving a quadrilateral is a parallelogram	H.9	Review: properties of quadrilaterals
H.5	Properties of rhombuses		
POLYGONS			
I.1	Polygon vocabulary	I.3	Exterior angles of polygons
I.2	Interior angles of polygons	I.4	Review: interior and exterior angles of polygons
AREA AND PERIMETER			
J.1	Perimeter	J.5	Area and circumference of circles
J.2	Area of rectangles and squares	J.6	Area of compound figures
J.3	Area of parallelograms and triangles	J.7	Area between two shapes
J.4	Area of trapeziums	J.8	Area and perimeter mixed review
		J.9	Heron's formula
SURFACE AREA AND VOLUME			
K.1	Introduction to surface area and volume	K.4	Volume of prisms and cylinders
K.2	Surface area of prisms and cylinders	K.5	Volume of cones
K.3	Surface area of cones	K.6	Surface area and volume of spheres
		K.7	Surface area and volume review
CIRCLES			
L.1	Parts of a circle	L.6	Arcs and chords
L.2	Central angles	L.7	Tangent lines
L.3	Arc measure and arc length	L.8	Perimeter of polygons with an inscribed circle
L.4	Area of sectors	L.9	Inscribed angles
L.5	Circle measurements: mixed review	L.10	Angles in inscribed right triangles
		L.11	Angles in inscribed quadrilaterals
CONSTRUCTIONS			
M.1	Construct the midpoint or perpendicular bisector of a segment	M.3	Construct a congruent angle
M.2	Construct an angle bisector	M.4	Construct an equilateral triangle or regular hexagon
SOLVE EQUATIONS			
N.1	Model and solve equations using algebra tiles	N.6	Solve equations with variables on both sides
N.2	Write and solve equations that represent diagrams	N.7	Solve equations: complete the solution
N.3	Solve one-step linear equations	N.8	Find the number of solutions
N.4	Solve two-step linear equations	N.9	Create equations with no solutions or infinitely many solutions
N.5	Solve advanced linear equations	N.10	Solve linear equations: word problems
		N.11	Solve linear equations: mixed review
DATA AND GRAPHS			
O.1	Interpret bar graphs, line graphs and histograms	O.3	Interpret pie charts
O.2	Create bar graphs, line graphs and histograms	O.4	Interpret stem-and-leaf plots
PROBLEM SOLVING			
P.1	Word problems: mixed review	P.3	Consecutive integer problems
P.2	Word problems with money	P.4	Rate of travel: word problems
		P.5	Weighted averages: word problems
LOGIC			
Q.1	Identify hypotheses and conclusions	Q.2	Counterexamples
COORDINATE PLANE			
R.1	Coordinate plane review	R.2	Quadrants and axes
DIRECT VARIATION			
S.1	Identify proportional relationships	S.3	Graph a proportional relationship
S.2	Find the constant of variation	S.4	Write direct variation equations
		S.5	Write and solve direct variation equations
LINEAR EQUATIONS			
T.1	Identify linear equations	T.11	Linear equations: solve for y
T.2	Find the slope of a graph	T.12	Write linear equations to solve word problems
T.3	Find the slope from two points	T.13	Compare linear equations, graphs and tables
T.4	Find a missing coordinate using slope	T.14	Write equations in standard form
T.5	Slope-intercept form: find the slope and y-intercept	T.15	Standard form: find x- and y-intercepts
T.6	Slope-intercept form: graph an equation	T.16	Standard form: graph an equation
T.7	Slope-intercept form: write an equation from a graph	T.17	Equations of horizontal and vertical lines
T.8	Slope-intercept form: write an equation	T.18	Graph a horizontal or vertical line
T.9	Slope-intercept form: write an equation from a table	T.19	Slopes of parallel and perpendicular lines
T.10	Slope-intercept form: write an equation from a word problem	T.20	Write an equation for a parallel or perpendicular line
EXPONENTS			
U.1	Exponents with integer bases	U.5	Division with exponents
U.2	Exponents with decimal and fractional bases	U.6	Multiplication and division with exponents
U.3	Negative exponents	U.7	Power rule
U.4	Multiplication with exponents	U.8	Evaluate expressions using properties of exponents
		U.9	Identify equivalent expressions involving exponents
RATIONAL EXPONENTS			
V.1	Evaluate rational exponents	V.4	Power rule with rational exponents
V.2	Multiplication with rational exponents	V.5	Simplify expressions involving rational exponents I
V.3	Division with rational exponents	V.6	Simplify expressions involving rational exponents II
LOGARITHMS			
W.1	Convert between exponential and logarithmic form: rational bases	W.5	Product property of logarithms
W.2	Evaluate logarithms	W.6	Quotient property of logarithms
W.3	Change of base formula	W.7	Power property of logarithms
W.4	Identify properties of logarithms	W.8	Properties of logarithms: mixed review
		W.9	Evaluate logarithms: mixed review
SCIENTIFIC NOTATION			
X.1	Convert between standard and scientific notation	X.3	Multiply numbers written in scientific notation
X.2	Compare numbers written in scientific notation	X.4	Divide numbers written in scientific notation
MONOMIALS			
Y.1	Identify monomials	Y.3	Divide monomials
Y.2	Multiply monomials	Y.4	Multiply and divide monomials
		Y.5	Powers of monomials
POLYNOMIALS			
Z.1	Polynomial vocabulary	Z.7	Multiply two polynomials using algebra tiles
Z.2	Model polynomials with algebra tiles	Z.8	Multiply two binomials
Z.3	Add and subtract polynomials using algebra tiles	Z.9	Multiply two binomials: special cases
Z.4	Add and subtract polynomials	Z.10	Multiply polynomials
Z.5	Add polynomials to find perimeter	Z.11	Write a polynomial from its roots
Z.6	Multiply a polynomial by a monomial	Z.12	Find the roots of factorised polynomials
FACTORISING			
AA.1	HCF of monomials	AA.5	Factorise quadratics: special cases
AA.2	Factorise out a monomial	AA.6	Factorise quadratics using algebra tiles
AA.3	Factorise quadratics with leading coefficient 1	AA.7	Factorise by grouping
AA.4	Factorise quadratics with other leading coefficients	AA.8	Factorise polynomials
QUADRATIC EQUATIONS			
BB.1	Characteristics of quadratic equations	BB.4	Solve a quadratic equation using the zero product property
BB.2	Complete a table: quadratic equations	BB.5	Solve a quadratic equation by factorising
BB.3	Solve a quadratic equation using square roots	BB.6	Solve a quadratic equation using the quadratic formula
RADICAL EXPRESSIONS			
CC.1	Roots of integers	CC.7	Multiply radical expressions
CC.2	Roots of rational numbers	CC.8	Divide radical expressions
CC.3	Find roots using a calculator	CC.9	Add and subtract radical expressions
CC.4	Nth roots	CC.10	Simplify radical expressions using the distributive property
CC.5	Simplify radical expressions with variables I	CC.11	Simplify radical expressions using conjugates
CC.6	Simplify radical expressions with variables II		
RATIONAL EXPRESSIONS			
DD.1	Simplify complex fractions	DD.4	Divide polynomials
DD.2	Simplify rational expressions	DD.5	Add and subtract rational expressions
DD.3	Multiply and divide rational expressions	DD.6	Solve rational equations
PROBABILITY			
EE.1	Theoretical probability	EE.4	Identify independent and dependent events
EE.2	Experimental probability	EE.5	Probability of independent and dependent events
EE.3	Compound events: find the number of outcomes	EE.6	Factorials
		EE.7	Counting principle
STATISTICS			
FF.1	Mean, median, mode and range	FF.3	Identify biased samples
FF.2	Quartiles	FF.2	Variance and standard deviation

NUMBERS			
A.1	Number lines	A.5	Prime factorisation
A.2	Convert between decimals and fractions	A.6	Square roots
A.3	Identify rational and irrational numbers	A.7	Cube roots
A.4	Compare and order rational numbers		
OPERATIONS			
B.1	Add, subtract, multiply and divide integers	B.5	Multiply and divide rational numbers
B.2	Evaluate numerical expressions involving integers	B.6	Evaluate numerical expressions involving rational numbers
B.3	Evaluate variable expressions involving integers	B.7	Evaluate variable expressions involving rational numbers
B.4	Add and subtract rational numbers		
CONSUMER MATHS			
C.1	Simple interest	C.4	Find the percent: discount and mark-up
C.2	Compound interest	C.5	Multi-step problems with percents
C.3	Percent of a number: VAT, discount and more		
LINEAR EQUATIONS			
D.1	Identify linear equations	D.11	Write linear equations to solve word problems
D.2	Find the slope of a graph	D.12	Compare linear equations, graphs and tables
D.3	Find the slope from two points	D.13	Write equations in standard form
D.4	Find a missing coordinate using slope	D.14	Standard form: find x- and y-intercepts
D.5	Slope-intercept form: find the slope and y-intercept	D.15	Standard form: graph an equation
D.6	Slope-intercept form: graph an equation	D.16	Equations of horizontal and vertical lines
D.7	Slope-intercept form: write an equation from a graph	D.17	Graph a horizontal or vertical line
D.8	Slope-intercept form: write an equation	D.18	Slopes of parallel and perpendicular lines
D.9	Slope-intercept form: write an equation from a table	D.19	Write an equation for a parallel or perpendicular line
D.10	Slope-intercept form: write an equation from a word problem	D.20	Find the distance between a point and a line
		D.21	Find the distance between two parallel lines
PAIRS OF LINEAR EQUATIONS			
E.1	Is (x, y) a solution to the pair of equations?	E.5	Find the number of solutions to a pair of equations
E.2	Solve a pair of equations by graphing	E.6	Solve a pair of equations using substitution
E.3	Solve a pair of equations by graphing: word problems	E.7	Solve a pair of equations using substitution: word problems
E.4	Find the number of solutions to a pair of equations by graphing	E.8	Solve a pair of equations using elimination
		E.9	Solve a pair of equations using elimination: word problems
MATRICES			
F.1	Matrix vocabulary	F.3	Add and subtract matrices
F.2	Matrix operation rules	F.4	Multiply a matrix by a scalar
		F.5	Multiply two matrices
ARITHMETIC SEQUENCES			
G.1	Arithmetic sequences	G.3	Write variable expressions for arithmetic sequences
G.2	Evaluate variable expressions for arithmetic sequences	G.4	Partial sums of arithmetic series
POLYNOMIALS			
H.1	Polynomial vocabulary	H.7	Powers of monomials
H.2	Model polynomials with algebra tiles	H.8	Multiply a polynomial by a monomial
H.3	Add and subtract polynomials using algebra tiles	H.9	Multiply two polynomials using algebra tiles
H.4	Add and subtract polynomials	H.10	Multiply two binomials
H.5	Add polynomials to find perimeter	H.11	Multiply two binomials: special cases
H.6	Multiply and divide monomials	H.12	Multiply polynomials
FACTORISING			
I.1	HCF of monomials	I.5	Factorise quadratics: special cases
I.2	Factorise out a monomial	I.6	Factorise quadratics using algebra tiles
I.3	Factorise quadratics with leading coefficient 1	I.7	Factorise by grouping
I.4	Factorise quadratics with other leading coefficients	I.8	Factorise polynomials
QUADRATIC EQUATIONS			
J.1	Characteristics of quadratic equations	J.7	Solve a quadratic equation by completing the square
J.2	Complete a table: quadratic equations	J.8	Solve a quadratic equation using the quadratic formula
J.3	Solve a quadratic equation using square roots	J.9	Using the discriminant
J.4	Solve a quadratic equation using the zero product property	J.10	Graph a quadratic equation
J.5	Solve a quadratic equation by factorising	J.11	Match quadratic functions and graphs
J.6	Complete the square		
RATIONAL EXPRESSIONS			
K.1	Simplify complex fractions	K.4	Divide polynomials
K.2	Simplify rational expressions	K.5	Add and subtract rational expressions
K.3	Multiply and divide rational expressions	K.6	Solve rational equations
POINTS, LINES AND SEGMENTS			
L.1	Lines, line segments and half lines	L.5	Congruent line segments
L.2	Lengths of segments on number lines	L.6	Perpendicular Bisector Theorem
L.3	Additive property of length	L.7	Midpoint formula
L.4	Midpoints	L.8	Distance formula
TWO-DIMENSIONAL FIGURES			
M.1	Polygon vocabulary	M.5	Area and perimeter in the coordinate plane II
M.2	Perimeter	M.6	Area and circumference of circles
M.3	Area of triangles and quadrilaterals	M.7	Area of compound figures
M.4	Area and perimeter in the coordinate plane I	M.8	Area between two shapes
		M.9	Area and perimeter of similar figures
TRANSFORMATIONS			
N.1	Translations: find the coordinates	N.6	Transformations that carry a polygon onto itself
N.2	Reflections: find the coordinates	N.7	Dilations: graph the image
N.3	Rotations: find the coordinates	N.8	Dilations: find the coordinates
N.4	Congruence transformations	N.9	Dilations: scale factor and classification
N.5	Compositions of congruence transformations: graph the image	N.10	Dilations and parallel lines
TRIANGLES			
O.1	Classify triangles	O.5	Identify medians, altitudes, angle bisectors and perpendicular bisectors
O.2	Triangle Angle-Sum Theorem	O.6	Angle-side relationships in triangles
O.3	Midsegments of triangles	O.7	Triangle Inequality Theorem
O.4	Triangles and bisectors		
SIMILARITY			
P.1	Identify similar figures	P.6	Perimeters of similar figures
P.2	Similarity ratios	P.7	Similarity rules for triangles
P.3	Similarity statements	P.8	Similar triangles and similarity transformations
P.4	Side lengths and angle measures in similar figures	P.9	Dilations: scale factor and classification
P.5	Similar triangles and indirect measurement	P.10	Areas of similar figures
RIGHT TRIANGLES			
Q.1	Pythagoras' Theorem	Q.3	Pythagoras' inequality Theorems
Q.2	Converse of Pythagoras' theorem	Q.4	Special right triangles
CIRCLES			
R.1	Parts of a circle	R.6	Arcs and chords
R.2	Central angles	R.7	Tangent lines
R.3	Arc measure and arc length	R.8	Perimeter of polygons with an inscribed circle
R.4	Area of sectors	R.9	Inscribed angles
R.5	Circle measurements: mixed review	R.10	Angles in inscribed right triangles
		R.11	Angles in inscribed quadrilaterals
TRIGONOMETRY			
S.1	Trigonometric ratios: sin, cos and tan	S.6	Inverses of trigonometric functions
S.2	Trigonometric ratios: csc, sec and cot	S.7	Trigonometric ratios: find a side length
S.3	Trigonometric functions of complementary angles	S.8	Trigonometric ratios: find an angle measure
S.4	Find trigonometric functions of special angles	S.9	Solve a right triangle
S.5	Find trigonometric functions using a calculator		
SURFACE AREA AND VOLUME			
T.1	Introduction to surface area and volume	T.6	Surface area and volume of spheres
T.2	Surface area of prisms and cylinders	T.7	Introduction to similar solids
T.3	Surface area of cones	T.8	Surface area and volume of similar solids
T.4	Volume of prisms and cylinders	T.9	Surface area and volume of similar solids
T.5	Volume of cones		
MEASUREMENT			
U.1	Convert rates and measurements	U.4	Minimum and maximum area and volume
U.2	Precision	U.5	Percent error
U.3	Greatest possible error	U.6	Percent error: area and volume
PROBLEM SOLVING			
V.1	Convert rates and measurements	V.3	Minimum and maximum area and volume
V.2	Precision	V.4	Percent error
LOGIC			
W.1	Identify hypotheses and conclusions	W.5	Conditionals
W.2	Counterexamples	W.6	Negations
W.3	Truth tables	W.7	Converses, inverses and contrapositives
W.4	Truth values	W.8	Biconditionals
PROBABILITY			
X.1	Theoretical probability	X.4	Identify independent and dependent events
X.2	Experimental probability	X.5	Probability of independent and dependent events
X.3	Compound events: find the number of outcomes	X.6	Geometric probability
		X.7	Counting principle
STATISTICS			
Y.1	Mean, median, mode and range	Y.3	Identify biased samples
Y.2	Quartiles		
DATA AND GRAPHS			
Z.1	Interpret histograms	Z.3	Interpret stem-and-leaf plots
Z.2	Create histograms		
CONSTRUCTIONS			
AA.1	Construct a tangent line to a circle	AA.3	Construct a regular hexagon or inscribed in a circle
AA.2	Construct an equilateral triangle inscribed in a circle	AA.4	Construct the circumcenter or incenter of a triangle
		AA.5	Construct the inscribed or circumscribed circle of a triangle

