

GRADE - 10
MATH
WORKPLAN 2018- 19

DATES	TOPIC	DETAILS
5 th to 9 th March	Real numbers	1. Learn Divisibility of Integers (Euclid's Division Algorithm - Technique to compute HCF of two positive integers.) 2. Multiplication of positive Integers (The Fundamental Theorem of Arithmetic - Every composite no. can be expressed as the product of primes in a unique way.) 3. Reason out why square root of 2 or 3 or 5 etc is irrational. 4. Explore and conclude exactly when the decimal expansion of rational number is terminating and when it is non-terminating repeating. 5. Define an irrational number in terms of its decimal representation
12 th to 16 th March	Polynomials	1. Identify the given expression is polynomial or not. 2. Identify kinds of polynomials on the basis of powers and terms. 3. Find the zeroes of polynomials graphically as well as algebraically. 4. Verify zeroes of polynomials graphically. 5. Verify the relationship between zeroes and the coefficients.
19 th to 23 rd March	Polynomials	6. divide the given polynomials by another polynomials & 7. Check whether the first polynomial is a factor of the second polynomial
26 th to 30 th March	Statistics	a) Calculate the mean, median and mode of grouped data. b) Understand the way out to calculate the unknown (frequency or observation) from given known. c) Use the appropriate formula for calculating the required central tendency.
3 rd to 6 th Ap	Statistics	a) Draw ogive for a given data. b) Understand the difference between frequency polygon and ogive. c) Learn through examples how data can be represented in a variety of graphical forms. d) Miscellaneous questions to be solved.

9 th to 13 th Ap	Triangles	<p>a) Identify similar polygons</p> <p>b) Distinguish between congruent and similar figures.</p> <p>c) Apply Thales / Basic Proportionality Theorem to solve questions.</p> <p>d) Apply Converse of Thales / Basic Proportionality Theorem to solve questions.</p>
16 th to 20 th Ap	Triangles	<p>e) Understand and apply appropriate criteria of similarity to prove two triangles to be similar.</p> <p>f) Ratio of areas of two similar triangles.</p> <p>g) Prove Pythagoras Theorem.</p> <p>h) Prove Converse of Pythagoras Theorem</p>
23 rd to 26 th Ap	Triangles Probability	<p>i) Apply Pythagoras Theorem and its Converse.</p> <p>a) Make mind map of possible outcomes of various events viz. tossing a coin, tossing 2 coins simultaneously, rolling a die, rolling a pair of die, outcomes of drawing a card from a pack of cards etc.</p> <p>b) Outcome of events / experiments</p> <p>c) Theoretical / Classical probability of an event E is written as P(E) and defined as $\frac{\text{Number of outcomes favourable to E}}{\text{Number of all possible outcomes of the experiment}}$ Where, we assume that the outcomes of the experiment are equally like.</p>
27 th to 30 th Ap	ADVENTURE CAMP	
1 st to 4 th May	A Pair of Linear Equations in Two Variables	<p>a) Understand the Algebraic interpretation of graphical representation i. e. intersecting lines implies unique solution, coinciding lines implies infinite solution and parallel lines implies no solution.</p> <p>b) Solve equation using elimination, substitution and cross multiplication method.</p>
7 th to 15 th May	A Pair of Linear Equations in Two Variables	<p>c) Interpret the coefficients of system of linear equations $a_1x + b_1y + c_1 = 0$ & $a_2x + b_2y + c_2 = 0$ with its algebraic and graphical solution.</p> <p>d) Predict the nature of the system of linear equations using the coefficients.</p> <p>e) Solving word problems based on real life situation.</p>
16 th to 23 rd May	PT 1(VI to X) UT 1 for XI and XII	Revision
25 th May	Last working day PTM	
26 th May to 8 th July	SUMMER VACATION	

9 th to 13 th July	Coordinate Geometry	<p>a) Understand use of Co-ordinate geometry in daily life.</p> <p>b) Recall the Cartesian co-ordinate.</p> <p>c) Derive formula to find distance between two points.</p> <p>d) Distance between two points in terms of their coordinates.</p> <p>e) Determine the point of division using section formula (internal).</p>
16 th to 19 th July	Coordinate Geometry	<p>f) Locate the mid -point of two given points.</p> <p>g) To calculate the area of a triangle.</p> <p>h) Check that the given points are collinear</p> <p>i) Understand coordinate geometry is useful tool to study geometry in terms of algebra.</p> <p>j) Apply to prove geometrical figures as asked using these formulas.</p>
20 th July	LAND MARK	-
23 rd to 27 th July	Quadratic Equations	<p>a) Define quadratic functions.</p> <p>b) Identify the graphs of quadratic functions along with their properties.</p> <p>c) Solve quadratic equations by factoring, the square root method, completing the square and the quadratic formula.</p> <p>d) Learns various terms like discriminant, roots, zeroes etc.</p>
30 th July to 3 rd Aug	Quadratic Equations	<p>e) Identify and solve quadratic word problems.</p> <p>g) Comprehends the word problems.</p> <p>h) Understand the nature of roots of a given quadratic equation.</p> <p>i) Predict the roots of quadratic equation using the discriminant.</p>
6 th to 10 th Aug	10 th Aug UTII for XI and XII	Revision
13 th to 17 th Aug	An Introduction to Trigonometry	<p>a) The need of studying trigonometry.</p> <p>b) Form an applicative, conceptual, and categorical perspective.</p>
20 th to 24 th Aug	An Introduction to Trigonometry	<p>a) Understand the use of trigonometry in our daily life.</p> <p>b) Identify the situations where Trigonometry may be applied.</p>
27 th to 31 st Aug	Some Application of Trigonometry	<p>c) Formulate a word problem into a mathematical one.</p> <p>d) Solve simple problems of finding heights and distances.</p> <p>e) Apply their knowledge and understanding of trigonometry in solving real life problems.</p>
4 th to 7 th Sep	Some Application of Trigonometry	Practice of trigonometry and Revision
10 th to 20 th Sept	PT 2 IX and X Term I Exam - VI to VIII Half Yearly - XI - XII	

TERM II		
21 st to 28 th Sept	Arithmetic Progressions	<p>a) Understand what sequences with examples are around.</p> <p>b) Figure out an abstract term from the general term or from a sequence generates the general term.</p> <p>c) To understand to identify an Arithmetic Progression.</p> <p>d) Recognizes a, d, n, an, of an A.P.</p> <p>e) Calculates the required term and general term of a given arithmetic progression.</p> <p>f) Use appropriate formula to find the sum of first n terms.</p> <p>g) Understands to find the sum of the required number of terms.</p> <p>h) Derive a formula to find the sum of first n natural numbers.</p>
1 st to 5 th Oct	Circles	<p>1. Define & explain the tangent and secant to a circle.</p> <p>2. Differentiate between secant and tangent.</p> <p>3. Prove the theorem 'The tangent to a circle is perpendicular to the radius through the point of contact.'</p> <p>4. Apply the knowledge of the theorem in solving questions.</p> <p>5. Prove the theorem 'Lengths of the tangent from an external point to a circle are equal.'</p> <p>6. Apply the knowledge of the theorem in solving questions.</p>
8 th to 11 th Oct	Areas Related to Circles	<p>a) Recall the concept of circumference of circle and its use in daily life situations.</p> <p>b) understand the terms- major segment, minor segment, major sector, minor sector, angle subtended by the sector at the centre, area of the c)sector of given angle, length of an arc of a sector of given angle and their applications.</p> <p>d) learn the formula of area of sector and segment of a circle</p> <p>e) derive the formula of area of sector and segment of a circle</p>
12 th Oct	Inter House Athletics Meet	
15 th Oct to 17 th Oct	Areas Related to Circles	<p>f) apply the formula of area of sector and segment of a circle in mathematical problems</p> <p>g) find the relationship between area of sector and length of an arc of a circle.</p> <p>h) apply the knowledge of area of plane figures in solving the problems with combination of plane figures</p>
18 th Oct to 21 st Oct	Dussehra Break MUN	

22 nd to 26 th Oct	UT 3 XI and XII	
29 th to 2 nd Nov	Surface areas and Volumes	<p>a) To determine volume and surface area of cylinder, cone, sphere, hemisphere, frustum.</p> <p>b) Volume and surface area of combined figures (only two).</p> <p>c) Realize the need of learning the concept once rationale is discussed.</p> <p>d) Recall the surface area, curved Surface area and volume of cuboid, cube, cylinder, cone, and sphere.</p> <p>e) Understand how the combination of figures is required in daily life.</p> <p>f) Differentiates between surface area and curved surface area.</p> <p>g) Identify the correct parameter for solving a problem.</p> <p>h) Understand what part of the surface area disappeared in the process of joining the figures.</p>
3 rd Nov	ANNUAL DAY	
4 th to 11 th Nov	DIWALI BREAK	
12 th to 16 th Nov	Surface areas and Volumes	<p>i) Differentiates between surface area / curved surface area/ volume.</p> <p>j) Figure out the combination of figures correctly.</p> <p>k) Apply the correct strategy to solve problem.</p> <p>l) Use the correct formula in solving the problems.</p>
19 th to 22 nd Nov	Surface areas and Volumes	<p>m) Understand which figure is converted to what in terms of figure.</p> <p>n) Calculate the unknown efficiently.</p>
26 th to 30 th Nov	29 th Nov - test series for 12 cbse begins till 14 th Dec	
3 rd Dec to 7 th Dec	UT II for VI to VIII 5 th Dec- PT III for IX and X begins	
10 th to 14 th Dec	UT II for VI to VIII PT III for IX and X	
17 th to 21 st Dec	Constructions	<p>a) Realize the need of learning the concept once rationale is discussed.</p> <p>b) Recall the method of construction of simple concept like angle bisector, perpendicular bisector.</p> <p>c) Divide a given line in desired ratio.</p> <p>d) Draw similar triangle as per given conditions.</p> <p>e) Draw similar triangle to the given triangle.</p> <p>f) Decide and Construct a triangle smaller or bigger than given triangle based on given ratio.</p> <p>g) Recall tangents from exterior, interior points on the circle.</p>

		h) Construct the tangent through a point on the circle, outside the circle with known/unknown centers.
23 rd Dec	Christmas Carnival	
24 th Dec to 13 th Jan'19	Winter Break	
14 th to 18 th Jan'19	Preboards for X and XII till 23 rd Jan'19	
21 st to 25 th Jan'19		
28 th Jan to 1 st Feb'19		
4 th to 8 th Feb'19		
11 th to 15 th Feb'19	Annual Exam for IX and XI from 13 th Feb	
18 th to 22 nd Feb'19	Annual Exam for IX and XI ends on 22 nd Feb'19	
25 th Feb to 1 st Mar'19		
5 th to 8 th Mar	New session for X and XII from 5 th Mar	
11 th to 15 th Mar	Annual Exam for VI to VIII from 12 th Mar	
20 th Mar	Annual Exam for VI to VIII ends	
30 th March	PTM	