

TOPIC	YES	NO
SECTION A: ANALYTIC GEOMETRY and LINEAR RELATIONS		
<i>ANALYTIC GEOMETRY</i>		
• DISTANCE between two points		
• MIDPOINT between two points or ENDPOINT given one end and a midpoint		
• DIVISION POINT given a RATIO or a FRACTION		
LINEAR RELATIONS		
• ISOLATING for 'y' (turn an equation into STANDARD (y = ax + b) FORM)		
• Find the SLOPE of a line ('a')		
• Find the equation of a line given the SLOPE and a POINT on the line		
• Find the equation of a line given TWO POINTS on the line		
• Find the X-intercept and Y-intercept of a line/rule/equation		
• Build the equation of a line PARALLEL to a given line (same 'a', different 'b')		
• Build the equation of a line PERPENDICULAR to a given line (N.R.S.)		
• Find the NUMBER of SOLUTIONS in a system of equations (parallel → 0, coincident (same line) → infinite, anything else → 1 solution)		
• Translate a STORY into a SYSTEM OF RELATIONS (make the equations)		
• Solve a SYSTEM of EQUATIONS and graph it.		
SECTION B: FUNCTIONS and their PROPERTIES		
How to determine and interpret the following properties in functions:		
• What is a function (VLT , every 'x' gets only one 'y')		
• The DOMAIN (x-values) and RANGE (y-values) of a function		
• Where the function is INCREASING, CONSTANT and DECREASING on the x-axis		
• The MINIMUM (lowest 'y') and MAXIMUM (highest 'y')		
• The sign of a function (POSITIVE, NEGATIVE, ZERO) (above, below, or on X-axis)		
• The INITIAL VALUE of a function (y-intercept)		
• The ZEROS of a function (x-intercepts)		
FUNCTIONS		
How to work with the following functions (words, graph, equation, table):		
• CONSTANT: $f(x) = a$ given number <i>(ex.: y = 50)</i>		
• DIRECT , and PARTIAL with positive and negative slopes: $f(x) = ax + b$		
• 2nd degree (QUADRATIC) $f(x) = a(x-h)^2 + k$		
• EXPONENTIAL (growth and decay) $f(x) = a^x$		
• STEP (<i>open circle – pass through, closed circle – use the y-value</i>)		
• PERIODIC (<i>find the period and identify how much time is left</i>)		
• PIECE-WISE (<i>different functions at different points along the domain</i>)		

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SECTION C: TRIGONOMETRY AND TRIANGLES (CONGRUENT/SIMILAR)		
TRIGONOMETRY		
• Find an ANGLE or SIDE using SOH-CAH-TOA (SIN, COS, TAN)		
• Find an ANGLE or SIDE using SINE LAW		
• Find the measure of an OBTUSE angle (OBTUSE = 180 - ACUTE)		
• Find the AREA OF A TRIANGLE - all three methods:		
○ General formula ($A = \text{base} \times \text{height} / 2$)		
○ Hero's formula $A = \sqrt{s(s-a)(s-b)(s-c)}$		
○ Trigonometric formula $A = \frac{a \cdot b \cdot \sin C}{2}$		
TRIANGLES, ISOMETRY AND SIMILITUDE		
• PYTHAGOREAN THEOREM ($a^2 + b^2 = c^2$)		
• CLASSIFYING TRIANGLES (right, isosceles, equilateral)		
• ANGLE RELATIONSHIPS with parallel lines and transversals (vert. opp, alt. int, alt. ext., complementary, supplementary, cons. int., ...)		
• Prove that two triangles are CONGRUENT (SSS, SAS and ASA)		
• Prove that two triangles are SIMILAR (SSS, SAS and AA)		
• Find unknown side lengths in similar figures (draw both triangles)		
• Find side lengths using METRIC RELATIONS		
SECTION D: STATISTICS		
• Read a STEM AND LEAF PLOT		
• Calculate MEAN DEVIATION		
• Find the PERCENTILE RANK of a score (PERCENTILE → round UP)		
• Find a SCORE given someone's percentile rank (SCORE → round DOWN)		
• Read CONTINGENCY TABLES and interpret STRENGTH and DIRECTION of 'r'		
• MAKE and INTERPRET a SCATTER PLOT (put the dots on a Cartesian grid)		
• Estimate the CORRELATION COEFFICIENT (find the 'r' score)		
• Find the EQUATION of a BEST FIT LINE from a scatter plot and PREDICT a VALUE		
• Find the EQUATION of a LINE from a TABLE OF VALUES (using averages) and PREDICT UNKNOWN VALUES from the rule.		