Topic	Yes	No
Numbers		
- Pythagoras		
- Square roots / cube roots / 4th roots, etc		
- Number systems (real, rational, irrational, integers, natural)		
- Laws of exponents (when to multiply, add, subtract)		
- Negative exponents		
- When exponents are fractions (denominator is a root)		
- Scientific notation (converting / adding, subtracting, multiplying, dividing)		
Algebra		
- Combining like terms		
- Adding and subtracting using brackets		
- Distributive property (multiplying – everyone gets a turn)		
- Dividing polynomials by monomials		
- Isolating variables (get 'x' by itself		
Equations and Inequalities		
- isolating variables in equations / inequalities (if you divide by a negative… switch the direction of the sign)		
- Converting word problems into equations/inequalities		
- Representing inequalities using interval notation, number line notation		
Functions (Relations)		
- Finding the rule of a linear function (y = ax + b)		
- Identifying the slope and y-intercept in word problems and from graphs		
- Building a rule from points, from a point and a ROC in graphs or word problems		
- Distinguishing between a constant function, linear function, and rational function given graphs / tables of values.		
Surface Area and Volume of Solids		
- Identifying solids given different views (front, side, top)		
- Finding the S.A. or volume of: prisms, pyramids, cylinders, cones, spheres (you should know the formula for the area of a trapezoid also)		
- Performing unit conversions in lengths, areas, volumes and with capacity (L) $1 \text{ cm}^3 = 1 \text{ ml}$, $1 \text{ dm}^3 = 1 \text{ L}$		
- Finding the missing measure of a solid (radius, height, etc) by working backward from the SA or the volume		
- Finding the S.A. and / or volume of a compound shape (made up of different shapes)		
- Finding the surface area / volume of a shape using algebraic expressions.		

Topic	Yes	No
Isometry and Similitude		
- Finding the scale factor used to go from a smaller to a larger figure		
- Using the scale factor to find a missing measurement in a similar shape		
- Converting between k, k^2, k^3 given missing measurement in 3D solids		
Probability		
- Probability of an event		
- Using trees to represent possible sequences of events		
- Finding the probability of something not happening.		
- Geometric probability (probability of landing on a gray section)		
Statistics		
- Different types of surveys (census, poll, study)		
- Sampling techniques (stratified, cluster, random, systematic random) - How to do each, when to use each (variation in the sample group)		
- Using statistical tables and diagrams to build a representative sample		
- Mean, Median, Mode, Weighted mean		
- Quartiles (Q1, Q2, Q3) range vs. interquartile range		
- Box and whisker plots		