



ST.MARY'S CATHOLIC HIGH SCHOOL, DUBAI.

ENTRANCE EXAMINATION for Academic Year 2019-2020

MATHEMATICS PORTION – YEAR 10

ONE PAPER – MARKS : 50 , CALCULATOR CAN BE USED

NUMBERS:

- Fractions
- Decimals and Estimation – Estimating Calculations by rounding, Upper and lower bounds of accuracy
- Percentages – Increase/ Decrease , Compound interest, Original quantity
- Direct and Inverse proportion
- Using numbers in standard form.
- Recurring decimals
- To use index laws.

ALGEBRA :

- Sequences – To find the n^{th} term of an arithmetic sequence.
- Expanding brackets and simplifying
- Solving linear equations involving fractions also.
- Solving simultaneous equations.
- Solving quadratic equations by factorisation method.
- Gradients of parallel / perpendicular lines.

GEOMETRY AND MEASURES:

- Angles and Polygons – To use angle properties of parallel lines, triangles, quadrilaterals, interior and exterior angles of polygons.
- Pythagoras Theorem
- Trigonometry in right angled triangles -To work out the missing sides and angles using trigonometry, to find the angle of elevation, depression.
- Application of circle theorems
- Congruent and Similar triangles.
- Area and circumference of a circle, Arc length and sector area
- Volume of prisms including cylinder, sphere , cone and pyramids.

STATISTICS:

- Estimating the mean from a grouped data.
- Probability – Mutually Exclusive, Independent Events, Tree diagrams (Conditional probability not included)
- Drawing and interpreting bar charts, pie charts and frequency polygons