



**GIRLS' HIGH SCHOOL
MATHEMATICS DEPARTMENT**

Form 4 & Form 3 Accelerated Academic Year 2025-2026

Form 4 Teachers: Mrs. A. Jack, Mrs. A Murray, Mrs. K. Cato

Form 3 Accelerated Teachers: Mrs. J. Lewis-McLean and Mrs. K. Cato

Term 1

| Topics | Learning objectives |
|--------------------------------------|---|
| Lines & Angles | <ol style="list-style-type: none"> 1. Distinguish between horizontal lines and vertical lines 2. Estimate the size of angles in degrees 3. Identify and sketch different types of angles (acute, obtuse, straight, right and reflex) 4. Identify parallel, perpendicular and intersecting lines 5. State property of vertically opposite angles 6. Identify and name angles formed when parallel lines are cut by a transversal lines (alternate angles, corresponding angles, interior angles) 7. Do related calculations involving properties of angles e.g. complementary, supplementary etc., |
| Pythagoras' Theorem and Trigonometry | <ol style="list-style-type: none"> 1. Use Pythagoras' theorem to calculate the unknown lengths of lines 2. Use Pythagoras' theorem to prove whether or not a triangle is right-angled 3. Solve word problems involving Pythagoras Theorem 4. Determine the sine, cosine and tangent ratios of acute angles in a right-angled triangle. 5. Use sine, cosine and tangent ratios in the solution of Right-angled triangles 6. Use simple trigonometric ratios to solve problems based on measurements in physical world <ol style="list-style-type: none"> a. Heights and distances b. Angles of elevation and depression |
| Measurement | <ol style="list-style-type: none"> 1. Define the term perimeter 2. Calculate the perimeter of irregular shapes when all sides are give 3. Calculate the perimeter of irregular shapes when a side is not known 4. Identify and list the properties of the following plane shapes: Triangle, Square, Rectangle, Rhombus, Kite, Parallelogram, and trapezium. 5. State the perimeter including: <ol style="list-style-type: none"> a. Perimeter of a square: $A = 4L$ b. Perimeter of rectangle: $P = 2(L+W)$ c. Perimeter of a triangle with sides a, b & c: $P = a + b + c$ 6. Explain the concept of area by counting squares 7. Calculate the area of the plane shapes listed in #5 including <ol style="list-style-type: none"> a. Area of rectangle: $A = L \times W$ b. Area of square: $A = L^2$ c. Area of triangle $= \frac{1}{2}bh$ d. Area of triangle with sides a, b and c: $A = \sqrt{s(s-a)(s-b)(s-c)}$ where $s = \frac{a+b+c}{2}$ e. Area of parallelogram with base b and perpendicular height h: $A = bh$ f. Area of trapezium with parallel sides a and b and height h: $A = \frac{1}{2}(a + b)h$ g. Area of rhombus $= \frac{pq}{2}$ where p and q are the lengths of the diagonals |

| | |
|---|--|
| <p style="text-align: center;">Circle Measurement</p> | <ol style="list-style-type: none"> 1. Identify parts of the circle <ol style="list-style-type: none"> a. Recognize that the value of $\pi = \frac{22}{7}$ or 3.14 b. Circumference of a circle: $C = 2\pi r$ or πd 2. Calculate the circumference of semi-circle 3. Calculate area of circle when radius or diameter is given 4. Calculate the area of a half circle. 5. Calculate the perimeter and area of circle combined with other polygons such as square, rectangle, and triangle etc., that is, composite shapes. 6. Calculate the radius or diameter of a circle when circumference or area is known. 7. Calculate the length of arc & the area of sector of circle |
| <p style="text-align: center;">Algebra 1</p> | <ol style="list-style-type: none"> 1. Use symbols to represent numbers, operations, variables and relations 2. Add, subtract, multiply and divide like terms 3. Simplify expressions 4. Substitute values for given variables in simple Algebraic expressions 5. Translate verbal phrases into algebraic symbols and vice versa 6. Solve linear equations in one variable 7. Perform Binary operations (other than the 4 basic ones) 8. Apply the distributive law to expand algebraic expressions 9. Simplify algebraic fractions 10. Solve linear equations involving Word Problems. 11. State solution sets of given inequalities. 12. Use the number line to show the solution set of inequalities. 13. Use set notation to show the solution set of inequalities. 14. Solve a linear in-equation 15. Use inequalities to solve worded problems 16. Recognize and define simultaneous equations 17. Solve simultaneous linear equations graphically and algebraically (using substitution method and elimination method.) 18. Use simultaneous linear equations to solve Word Problems when required |

Kindly note that the following topics will be reviewed via worksheets and will be on the end of term examinations:

- **Number Theory**
- **Computation with fractions, decimals & percentage**
- **Approximation (rounding off including significant figures and standard form**
- **Consumer Arithmetic**
- **Sets and Venn diagram**