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|  | ***SCHEME OF WORK FORM ONE MATHEMATICS TERM ONE YEAR 2019*** | | | | | | | |  |
| ***WK***  ***NO.*** | ***L/***  ***NO*** | | ***TOPIC/***  ***SUBTOPIC*** | ***LESSON / SPECIFIC***  ***OBJECTIVES*** | ***TEACHING / LEARNING***  ***ACTIVITIES*** | | ***MATERIALS***  ***/***  ***RESOURCES*** | ***REFERENCES*** | ***REMARKS*** |
| ***1-2*** |  | | ***ADMSSION OF FORM ONE STUDENTS*** | | | | | |  |
| 3 | 1 | | **NATURAL NUMBERS**  Numbers in figures and words. | By the end of the lesson, learners should be able to:  Identify, read and write (large) natural numbers in figures and words. | Brain storming.  Oral practice.  Written exercise. | | Place value chart. | *KLB BOOK 1*  *Pg 1* |  |
| 2 | | Place value and total value of numbers. | Determine the place value and total value of digits in numbers. | Oral practice.  Written exercise. | | Place value chart.  Bank deposit slips. | *KLB BOOK 1*  *Pg 1* |  |
| 3 | | Rounding off numbers. | Round off numbers to the nearest ten, hundred, thousand, etc. | Oral exercise.  Worked examples.  Written exercise. | |  | *KLB BOOK 1*  *Pg 2-3* |  |
| 4 | | The four  basic operations | Add and subtract numbers.  Define a product, quotient, dividend and divisor.  Solve numerical / word problems on arithmetic operations. | Solving numerical / word problems / examples.  Oral and written exercises. | |  | *KLB BOOK 1*  *Pg 6-9* |  |
| 5 | | Odd, even and prime numbers. | Identify odd, even and prime numbers. | Q/A , oral exercise,  written exercise. | |  | *KLB BOOK 1*  *Pg 9* |  |
| 6 | | FACTORS  Numbers in factor form. | By the end of the lesson, learners should be able to:  Express composite numbers in factor form and vice versa. | Q/A.  Factor tree diagrams.  Oral & written exercises. | |  | *KLB BOOK 1*  *Pg 10-11* |  |
| 4 | | 1 | Factors in power form. | Express factors in power form. | Drawing factor tree diagrams.  Oral & written exercises. |  | | *KLB BOOK 1*  *Pg10-11* |  |
| 2 | DIVISIBILITY TEST (D.T.)  D.T. of a number by 2, 3, 4. | By the end of the lesson, learners should be able to:  Test the divisibility of a number by 2, 3, 4. | Worked examples.  Oral exercise.  Written exercise. |  | | *KLB BOOK 1*  *Pg 12-14* |  |
| 3 | D.T. by of a number 5, 6, and 8. | By the end of the lesson, learners should be able to:  Test the divisibility of a number by 5, 10, and 6. | Guided discovery.  Oral exercise.  Written exercise. |  | | *KLB BOOK 1*  *Pg 15-17* |  |
| 4 | D.T. of a number by 9 | By the end of the lesson, learners should be able to:  Test the divisibility of a number by 9 | Through examples discover D.T. of a number by 9.  Exercise. | Puzzles and games. | | *KLB BOOK 1*  *Pg 18-19* |  |
| 5 | D.T. of a number by 11. | By the end of the lesson, learners should be able to:  Test the divisibility of a number by 11. | Guided discovery.  Exercise. | Puzzles and games. | | *KLB BOOK 1*  *Pg 20-21* |  |
| 6 | G.C.D./ HCF.  GCD of a set of numbers using divisors. | By the end of the lesson, learners should be able to:  Find the GCD of a set of numbers by listing **divisors.** | List factors of numbers and choose common ones/ the GCD.  Written exercise. | Containers of different capacities. | | *KLB BOOK 1*  *Pg 22-23* |  |
| 5 | | 1 | GCD of a set of numbers using factors. | By the end of the lesson, learners should be able to:  Find the GCD of a set of numbers by listing **factors.** | Worked examples.  Written exercise. |  | | *KLB BOOK 1*  *Pg 22-23* |  |
| 2,3 | Applications of HCF/ GCD. | By the end of the lesson, learners should be able to:  Apply GCD to real life situations.  Solve word problems | Worked examples.  Supervised practice.  Written exercise. | Containers of different capacities. | | *KLB BOOK 1*  *Pg 22-23* |  |
| 4 | L.C.M.  Multiples of numbers. | By the end of the lesson, learners should be able to:  List multiples of numbers.  Identify the LCM. of numbers. | Q/A: Multiples of given numbers.  Exercise. |  | | *KLB BOOK 1*  *Pg 24-25* |  |
| 5 | L.C.M.  Factor method. | By the end of the lesson, learners should be able to:  Find L.C.M. of numbers using factor method. | Oral practice.  Worked examples.  Exercise.  Exercise review. |  | | *KLB BOOK 1*  *Pg 25-26* |  |
| 6 | L.C.M.  Index method. | By the end of the lesson, learners should be able to:  Find L.C.M. of numbers using power method. | Oral practice.  Worked examples.  Exercise. |  | | *KLB BOOK 1*  *Pg 25-26* |  |

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| 6 |  | MID TERM |  |  |  |  |  |
| 7 | 1 | L.C.M.  – Applications. | By the end of the lesson, learners should be able to:  Solve problems on practical applications of L.C.M. | Exercise involving ringing of bells, flashlights and containers of different capacities. | Containers of different capacities. | *KLB BOOK 1*  *Pg 26-27* |  |
| 2 | **INTEGERS**  The number line. | By the end of the lesson, learners should be able to:  Identify integers on a number line. | Explain meaning of + ve and - ve integer with zero as the reference point.  Oral exercise:  + ve or – ve numbers: statements in word form. | Thermometers.  Chart:  Temperatures at different zones. | *KLB BOOK 1*  *Pg 28-29* |  |
| 3 | Addition of  integers. | By the end of the lesson, learners should be able to:  Add positive integers.  Add positive and negative integers. | Give examples where we add + ve and – ve integers e.g.  Addition of marks, debts, expenses, etc.  Written exercise. |  | *KLB BOOK 1*  *Pg 30-31* |  |
| 4 | Subtraction of integers. | By the end of the lesson, learners should be able to:  Subtract an integer from another.  Add negative integers. | Give examples where we deal with sum of negative numbers, e.g. amount of debts, loans, etc.  Work examples and written exercise. |  | *KLB BOOK 1*  *Pg 31-35* |  |
| 5 | Multiplication of integers. | By the end of the lesson, learners should be able to:  Obtain products of + ve and  – ve factors. | Worked examples.  Supervised practice.  Exercise. |  | *KLB BOOK 1*  *Pg 35-37* |  |
| 6 | Multiplication of integers. | By the end of the lesson, learners should be able to:  Obtain product of two negative numbers. | Worked examples.  Supervised practice.  Exercise. |  | *KLB BOOK 1*  *Pg 35-37* |  |
| 8  9 | 1 | Division of integers. | By the end of the lesson, learners should be able to:  Work out division of integers where one integer is negative. | Guided discovery.  Worked examples.  Exercises. |  | *KLB BOOK 1*  *Pg 37-40* |  |
| 2 | Division of integers. | By the end of the lesson, learners should be able to:  Work out division of integers where both integers are negative. | Guided discovery.  Worked examples.  Exercises. |  | *KLB BOOK 1*  *Pg 37-40* |  |
| 3 | Order of operations.  -Addition and subtraction. | By the end of the lesson, learners should be able to:  Carry out combined operations on integers. | Worked examples.  Supervised practice.  Exercise. |  | *KLB BOOK 1*  *Pg 37-40* |  |
| 4 | -Multiplication and division. | By the end of the lesson, learners should be able to:  Carry out combined operations on integers. | Worked examples.  Written Exercise. |  | *KLB BOOK 1*  *Pg 37-40* |  |
| 5 | -Brackets and ‘of’ operation. | By the end of the lesson, learners should be able to:  Carry out combined operations on integers. | Worked examples.  Written Exercise. |  | *KLB BOOK 1*  *Pg 37-40* |  |
| 6 | SHORT TEST | |  |  |  |  |
| 10 | 1 | FRACTIONS  Proper and improper fractions | By the end of the lesson, learners should be able to:  Identify proper and improper fractions.  Write an improper fraction as a mixed number and vice versa. | Oral practice.  Oral exercise.  Written exercise. |  | *KLB BOOK 1*  *Pg 41-42* |  |
| 2 | Equivalent fractions. | By the end of the lesson, learners should be able to:  Identify equivalent fractions. | Exercises – both oral and written.  Review of exercises. | Chart-pie chart. | *KLB BOOK 1*  *Pg 42-43* |  |
| 3 | Comparing fractions. | By the end of the lesson, learners should be able to:  Arrange given fractions in ascending / descending order. | Review L.C.M. of numbers and equivalent fractions.  Worked examples and written exercise. |  | *KLB BOOK 1*  *Pg 43-44* |  |
| 4 | Addition / subtraction of fractions. | By the end of the lesson, learners should be able to:  Add / subtract fractions. | Review L.C.M. of numbers and equivalent fractions.  Worked examples and written exercise. |  | *KLB BOOK 1*  *Pg 45-48* |  |
| 5 | Multiplication of fractions. | By the end of the lesson, learners should be able to:  Multiply two or more fractions. | Q/A: Review improper fractions.  Examples  Written exercise. |  | *KLB BOOK 1*  *Pg 48-52* |  |
| 6 | Division of fractions by fractions/ mixed numbers. | By the end of the lesson, learners should be able to:  Work out division involving fractions. | Worked examples.  Supervised practice.  Exercise. |  | *KLB BOOK 1*  *Pg 52-54* |  |
| 11 | 1 | Both addition and subtraction operators. | By the end of the lesson, learners should be able to:  Compute sums and differences involving positive and negative fractions. | Worked examples.  Supervised practice.  Exercise. |  | *KLB BOOK 1*  *Pg 54-57* |  |
| 2 | -Multiplication / division involving negative fractions. | By the end of the lesson, learners should be able to:  Compute products and divisions involving positive and negative fractions. | Examples.  Supervised practice.  Written exercise. |  | *KLB BOOK 1*  *Pg 54-57* |  |
| 3 | Inner and outer brackets. | By the end of the lesson, learners should be able to:  Work out fractions enclosed with both inner and outer brackets. | Explain order of operations involving two brackets.  Examples and exercise. |  | *KLB BOOK 1*  *Pg 54-57* |  |
| 4 | The ‘of’ operation. | By the end of the lesson, learners should be able to:  Perform the ‘of’ operation on positive and negative fractions. | Worked examples.  Supervised practice.  Exercise. |  | *KLB BOOK 1*  *Pg 54-57* |  |
| 5 | The ‘bar’ operator and other operators. | Perform the ‘bar’ operation on positive and negative fractions. | Explain order of operations involving the bar.  Examples and exercise. |  | *KLB BOOK 1*  *Pg 54-57* |  |
| 6 | Several operators. | By the end of the lesson, learners should be able to:  Solve a variety of problems involving fractions. | Problem solving on mixed exercise including word Problems. |  | *KLB BOOK 1*  *Pg 54-57* |  |
| 12&13 |  | *END OF TERM ONE EXAMS* | | | | |  |

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|  | *FORM ONE MATHEMATICS TERM TWO YEAR 2019* | | | | | | |  |
| 1 | 1 | DECIMALS  Decimals and fractions. | By the end of the lesson, learners should be able to:  Convert fractions to decimals and vice versa. | Examples.  Oral exercise. | |  | *KLB BOOK 1*  *Pg 58-61* |  |
| 2 | Mixed numbers in decimal form. | By the end of the lesson, learners should be able to:  Write a mixed number in decimal form. | Q/A: Mixed numbers in decimal form.  Examples and exercise. | |  | *KLB BOOK 1*  *Pg 58-61* |  |
| 3 | Decimal places. | By the end of the lesson, learners should be able to:  Arrange decimals in ascending / descending order. | Examples and exercise. | | Place value Chart. | *KLB BOOK 1*  *Pg 63-64* |  |
| 4 | Rounding off decimals. | By the end of the lesson, learners should be able to:  Round off a decimal to a given number of decimal places. | Q/A method.  Oral exercise.  Written Exercise. | |  | *KLB BOOK 1*  *Pg 63* |  |
| 5 | Recurring decimals. | By the end of the lesson, learners should be able to:  Identify a recurring decimal.  Rewrite a recurring decimal notation in ordinary form. | Work out long division involving recurring decimals.  Exposition of new notations. | |  | *KLB BOOK 1*  *Pg 61-62* |  |
| 6 | Recurring decimals as ordinary fractions. | By the end of the lesson, learners should be able to:  Write a recurring decimal as ordinary fractions. | Students work out long division leading to a recurring decimal with *one dot*.  Expository approach: converting the decimal to a fraction.  Examples & Exercise. | |  | *KLB BOOK 1*  *Pg 62-63* |  |
| 2 | 1 | Recurring decimals as ordinary fractions. | By the end of the lesson, learners should be able to:  Write a recurring decimal as ordinary fractions. | Working out a recurring decimal with *2 dots.*  Several examples.  Written exercise. | |  | *KLB BOOK 1*  *Pg 62-63* |  |
| 2 | Standard form of numbers. | By the end of the lesson, learners should be able to:  Express numbers in standard form. | Explain the standard form of large numbers.  Oral exercise.  Discussion on prefixes such as *kilo, mega, giga, etc*. | | Chart-prefixes of metric units and their symbols. | *KLB BOOK 1*  *Pg 64* |  |
| 3 | Decimals in standard form | By the end of the lesson, learners should be able to:  Express decimal numbers in standard form. | Explain the standard form of decimal numbers.  Use of prefixes *milli, centi, deci, micro, pico, etc.*  Written Exercise. | | Chart  -Prefixes and their symbols.  -Prefixes in standard form, eg,  *milli = 10 - 3* | *KLB BOOK 1*  *Pg 64* |  |
| 4,  5 | Operations on decimals. | By the end of the lesson, learners should be able to:  Carry out combined operations on decimals in the correct order. | Examples on several operations including negative decimals.  Mixed exercise including word problems. | |  | *KLB BOOK 1*  *Pg 65-72* |  |
| 6 | TEST / MIXED EXERCISE | | | |  |  |  |
| 3 | 1 | SQUARES & SQUARE ROOTS  Squares of whole numbers and decimal fractions. | By the end of the lesson, learners should be able to:  Square a whole number / decimal fraction. | Examples.  Inspecting number of decimal places.  Game:  Squaring numbers ending in 5.  Exercise. | |  | *KLB BOOK 1*  *Pg 73* |  |
| 2 | Squares of fractions. | By the end of the lesson, learners should be able to:  Square a fraction / mixed fraction. | Review mixed fractions.  Cancellation / simplest form of numbers.  Exercise. | |  | *KLB BOOK 1*  *Pg 73* |  |
| 3,4 | Squares using mathematical tables.  (3 sig. fig.) | By the end of the lesson, learners should be able to:  Obtain squares of numbers using mathematical tables. | Problem solving  Assignment.  Review standard form of numbers.  Teacher guides students on how to use mathematical tables to obtain squares of numbers.  Worked examples.  Supervised practice.  Exercise. | | Mathematical tables.  Mathematical tables. | *KLB BOOK 1*  *Pg 74-76* |  |
| 5 | Squares using mathematical tables.  (4 sig. fig.) | *KLB BOOK 1*  *Pg 74-76* |  |
| 6 | Squares using mathematical tables.  (5 sig. fig.) | *KLB BOOK 1*  *Pg 74-76* |  |
| 4 | 1 | Square roots  of perfect squares. | By the end of the lesson, learners should be able to:  Work out square roots  of perfect squares using factor method. | Q/A: Identifying perfect squares.  Review factorization of natural numbers / Divisibility test.  Examples and Exercise. | | Mathematical tables. | *KLB BOOK 1*  *Pg 76-78* |  |
| 2 | Square roots of 3-digit number from mathematical tables. | By the end of the lesson, learners should be able to:  Obtain square root of 3-digit numbers from mathematical tables. | Review standard form of numbers.  Teacher guides students on how to use mathematical tables to obtain squares of numbers.  Several examples  & Exercise. | | Mathematical tables. | *KLB BOOK 1*  *Pg 78-79* |  |
| 3 | Square roots of 4-digit number from mathematical tables. | By the end of the lesson, learners should be able to:  Obtain square root of 4-digit numbers from mathematical tables. | Mathematical tables. | *KLB BOOK 1*  *Pg 78-79* |  |
| 4,5 | Square roots of decimal numbers from mathematical tables. | By the end of the lesson, learners should be able to:  Obtain square root of decimal numbers from mathematical tables. | Review standard form of numbers.  Teacher guides students on how to use mathematical tables to obtain squares of numbers.  Several examples  & Exercise | | Mathematical tables. | *KLB BOOK 1*  *Pg 78-79* |  |
| 6 | Mixed exercise. | By the end of the lesson, learners should be able to:  Solve numerous problems on squares of numbers. | Problem solving – word problems. | | Mathematical tables. | *KLB BOOK 1*  *Pg 79* |  |
| 5 | 1 | ALGEBRAIC EXPRESSIONS  Symbols & symbolic representation. | By the end of the lesson, learners should be able to:  Write quantities in symbols and vice versa.  Identify like and unlike terms. | | Examples.  Oral exercise. |  | *KLB BOOK 1*  *Pg 80-82* |  |
| 2,3 | Collecting like terms.  *Symbols and fractions.* | By the end of the lesson, learners should be able to:  Add / subtract like terms. | | Examples.  Supervised practice.  Oral exercise.  Written exercise. |  | *KLB BOOK 1*  *Pg 82-84* |  |
| 4 | Collecting like terms.  *Symbols with powers.* | By the end of the lesson, learners should be able to:  Add / subtract like terms. | | Examples.  Oral exercise.  Written exercise. |  | *KLB BOOK 1*  *Pg 84-85* |  |
| 5 | Opening brackets. | By the end of the lesson, learners should be able to:  Expand algebraic expressions. | | Examples.  Supervised practice.  Written exercise. |  | *KLB BOOK 1*  *Pg 85* |  |
| 6 | Simplifying algebraic expressions. | By the end of the lesson, learners should be able to:  Simplify algebraic expressions. | | Examples.  Supervised practice.  Written exercise. |  | *KLB BOOK 1*  *Pg 83* |  |
| 6 | 1 | Factorization. | By the end of the lesson, learners should be able to:  Factorize algebraic expressions. | | Q/A: Identifying common factors.  Examples.  Supervised practice.  Written exercise. |  | *KLB BOOK 1*  *Pg 86-88* |  |
| 2 | Further factorization. | By the end of the lesson, learners should be able to:  Factorize longer algebraic expressions. | | Q/A: Identifying common factor.  Factoring out common factor(s). |  | *KLB BOOK 1*  *Pg 88-90* |  |
| 3 | Factorization by grouping. | By the end of the lesson, learners should be able to:  Factorize algebraic expressions by grouping. | | Q/A: Identifying common factor.  Factoring out common factor(s) / groups of factors. |  | *KLB BOOK 1*  *Pg 88-90* |  |
| 4 | Simplifying algebraic fractions. | By the end of the lesson, learners should be able to:  Simplifying algebraic fractions. | | Review LCM.  Give examples and an assignment. |  | *KLB BOOK 1*  *Pg 91-92* |  |
| 5 | Substituting numbers into algebraic expressions. | By the end of the lesson, learners should be able to:  Substitute numbers into algebraic expressions. | | Several examples.  Recapitulation of major points. Exercise. |  | *KLB BOOK 1*  *Pg 92- 93* |  |
| 6 | C.A.T. |  | |  |  |  |  |
| 7 | 1 | RATE, PROPORTION, RATIO, %.  Rates. | By the end of the lesson, learners should be able to:  Solve problems involving rates. | | Examples / Problem solving. |  | *KLB BOOK 1*  *Pg 96-97* |  |
| 2 | Ratios:  Comparing two / more ratios. | By the end of the lesson, learners should be able to:  Solve problems involving ratios.  Compare two ratios. | | Worked examples.  Supervised practice.  Exercises. |  | *KLB BOOK 1*  *Pg 97-99* |  |
| 3 | Ratios: increasing / decreasing. | By the end of the lesson, learners should be able to:  Increase / decrease a quantity in a given ratio. | | Worked examples.  Supervised practice.  Exercises. |  | *KLB BOOK 1*  *Pg 99-100* |  |
| 4 | Ratios:  Distribute a quantity in a given ratio. | By the end of the lesson, learners should be able to:  Divide a quantity in a given ratio. | | Worked examples.  Supervised practice.  Exercises. |  | *KLB BOOK 1*  *Pg 101* |  |
| 5 & 6 | Direct proportion. | By the end of the lesson, learners should be able to:  Solve problems on direct proportion. | | Worked examples.  Supervised practice.  Written exercises.  Exercise review. |  | *KLB BOOK 1*  *Pg 102-105* |  |
| 8 | 1 & 2 | Inverse proportion | By the end of the lesson, learners should be able to:  Solve problems on inverse proportion. | | Oral practice.  Examples  Written exercises. |  | *KLB BOOK 1*  *Pg 102-105* |  |
| 3 | Fractions and Percentages. | By the end of the lesson, learners should be able to:  Write a fraction as a %. | | Worked examples.  Supervised practice.  Exercises. |  | *KLB BOOK 1*  *Pg 105-106* |  |
| 4 | Decimals and percentages. | By the end of the lesson, learners should be able to:  Write a decimal fraction as a %. | | Worked examples.  Supervised practice.  Exercises – oral and written. |  | *KLB BOOK 1*  *Pg 105-6* |  |
| 5 | Percentage increase. | By the end of the lesson, learners should be able to:  Compute % increases of quantities. | | Worked examples.  Supervised practice.  Exercises. |  | *KLB BOOK 1*  *Pg 106-9* |  |
| 6 | Percentage decrease. | By the end of the lesson, learners should be able to:  Compute % decreases of quantities. | | Oral practice.  Written exercise. |  | *KLB BOOK 1*  *Pg 106-9* |  |
| 9 | 1 | LENGTH  Metric units of length | By the end of the lesson, learners should be able to:  Identify the S.I. unit of length.  Convert derived units of length to metre. | | Q/A : Units of length.  Conversion rates.  Oral & written exercises. | Metre rule.  Chart- grid of units. | *KLB BOOK 1*  *Pg 110* |  |
| 2 | Significant figures of length. | By the end of the lesson, learners should be able to:  Express length in the correct number of sig. figures. | | Explain (Non) significant zero.  Oral & Written exercises | Instruments of measuring length that are more sensitive than the metre rule. | *KLB BOOK 1*  *Pg 111-3* |  |
| 3 | Measuring length. | By the end of the lesson, learners should be able to:  Determine length accurately. | | Practical session: measuring lengths of various bodies. | Metre rule,  Ruler,  Tape measure. | *KLB BOOK 1*  *Pg 113-6* |  |
| 4 | Perimeter of plane figures. | By the end of the lesson, learners should be able to:  Calculate perimeter of drawn plane figures. | | Oral pratice.  Problem solving. |  | *KLB BOOK 1*  *Pg 113-6* |  |
| 5 | Value of π. | By the end of the lesson, learners should be able to:  Determine practically the value of pi. | | Students’ activity: Determine value of pi using various circular bodies. | Strings, rulers,  Circular objects. | *KLB BOOK 1*  *Pg 116-7* |  |
| 6 | Circumference. | By the end of the lesson, learners should be able to: | | Problem solving.  Assignment. | Strings, rulers,  Circular objects. | *KLB BOOK 1*  *Pg 118* |  |
| 10 | 1 | Arc length. | Calculate circumferences of part of circles. | | Exposition, examples, written exercise. |  | *KLB BOOK 1*  *Pg 118-121* |  |
| 2 | AREA  Units of area. | By the end of the lesson, learners should be able to:  Convert units of area to given units. | | Q/A to review units of length.  Oral and written exercises. |  | *KLB BOOK 1*  *Pg 123* |  |
| 3 | Area of plane figures. | By the end of the lesson, learners should be able to:  Find area of plane figures. | | Oral and written exercises. | Plane figure models- kite, rhombus, parallelogram,  etc. | *KLB BOOK 1*  *Pg 124-129* |  |
| 4 | Area of a circle. | Find area of a circle. | | Oral and written exercises. |  | *KLB BOOK 1*  *Pg 129-131* |  |
| 5 | Area of a sector. | Find area of a sector. | | Worked examples.  Supervised practice.  Miscellaneous exercise. |  | *KLB BOOK 1*  *Pg 131-134* |  |
| 6 | Surface area of solids. | Find surface area of solids. | | Worked examples.  Supervised practice.  Miscellaneous exercise. |  | *KLB BOOK 1*  *Pg 135 - 140* |  |
| 11 | 1 | VOLUME & CAPACITY  Units of volume. | By the end of the lesson, learners should be able to:  Convert metric units of volume to m3. | | Worked examples.  Supervised practice.  Miscellaneous exercise. |  | *KLB BOOK 1*  *Pg 143* |  |
| 2 | Cubes, cuboids & cylinders. | By the end of the lesson, learners should be able to:  Calculate volumes of cubes and cuboids. | | Worked examples.  Supervised practice.  Miscellaneous exercise. |  | *KLB BOOK 1*  *Pg 143-146* |  |
|  | 3 | Capacity:  Units. | By the end of the lesson, learners should be able to:  Convert one unit of capacity to another. | | Oral practice.  Worked examples.  Supervised practice.  Miscellaneous exercise. | Measuring cylinders. | *KLB BOOK 1*  *Pg 146-7* |  |
| 4 | Volume and Capacity:  Units. | By the end of the lesson, learners should be able to:  Convert units of volume to units of capacity. | | Oral practice.  Worked examples.  Supervised practice.  Miscellaneous exercise. | Measuring cylinders. | *KLB BOOK 1*  *Pg 146-7* |  |
| 5,6 | Volume and Capacity:  Numericals. | By the end of the lesson, learners should be able to:  Solve problems involving volume and capacity. | | Worked examples.  Supervised practice.  Miscellaneous exercise. |  | *KLB BOOK 1*  *Pg 146-7* |  |
| 12,  13 |  | *END OF TERM TWO EXAMS* | | | | | |  |

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| ***MATHEMATICS FORM ONE TERM THREE YEAR 2019*** | | | | | | | |
| ***WK***  ***NO.*** | ***L/***  ***NO*** | ***TOPIC/***  ***SUBTOPIC*** | ***LESSON / SPECIFIC***  ***OBJECTIVES*** | ***TEACHING / LEARNING***  ***ACTIVITIES*** | ***MATERIALS /***  ***RESOURCES*** | ***REFERENCES*** | ***REMARKS*** |
| 1 | 1,2 | MASS, WEIGHT & DENSITY  Mass & Weight. | By the end of the lesson, learners should be able to:  Solve problems relating to mass and weight. | Q/A: Definition of mass, weight.  Discuss units of mass, weight.  Oral exercise on relation between mass and weight. | Beam balance, spring balance calibrated in Newtons. | *KLB BOOK 1*  *Pg 148-9* |  |
| 3,4 | Density. | By the end of the lesson, learners should be able to:  Calculate density in kg/m3 and g/cm3. | Worked examples.  Supervised practice.  Exercises. |  | *KLB BOOK 1*  *Pg 149-152* |  |
| 5 | TIME.  Units of time. | By the end of the lesson, learners should be able to:  Convert units of time into S.I. unit. | Oral practice.  Written exercise. | Stop clocks/  Watches. | *KLB BOOK 1*  *Pg 153-4* |  |
| 6 | 12 / 24 hr system of time. | By the end of the lesson, learners should be able to:  Express 12-hr system in 24-hr system. | Oral practice.  Written exercise. | Stop clocks/  Watches | *KLB BOOK 1*  *Pg 154-6* |  |
| 2 | 1,2 | Travel timetables. | By the end of the lesson, learners should be able to:  Interpret travel timetables. | Oral practice.  Written exercise.  Review of exercise. | Chart- Travel timetables. | *KLB BOOK 1*  *Pg 156-9* |  |
| 3 | LINEAR EQUATIONS  Simple equations. | By the end of the lesson, learners should be able to:  Solve simple equations with one unknown. | Worked examples.  Exercise. | Graph papers, geo-board / grid. | *KLB BOOK 1*  *Pg 160-1* |  |
|  | 4 | Fractions with one unknown. | By the end of the lesson, learners should be able to:  Solve simple equations with fractions. | Worked examples.  Exercise. |  | *KLB BOOK 1*  *Pg 161-2* |  |
| 5,6 | Word problems. | By the end of the lesson, learners should be able to:  Solve equations involving fractions and whole numbers. | Worked examples.  Supervised practice.  Exercises. |  | *KLB BOOK 1*  *Pg 162-5* |  |
| 3 | 1 | Linear Equations with two unknowns.  *- elimination method.*  (Whole numbers) | By the end of the lesson, learners should be able to:  Solve equations with two unknowns using elimination method. | Worked examples.  Exercise.  Problem solving. |  | *KLB BOOK 1*  *Pg 165-7* |  |
| 2,3 | Linear Equations with two unknowns.  - *elimination method.*  (Fractions / mixed numbers) | By the end of the lesson, learners should be able to:  Solve equations with two unknowns using elimination method. | Review L.C.M., equivalent fractions.  Worked examples.  Exercise.  Problem solving. |  | *KLB BOOK 1*  *Pg 167-9* |  |
| 3 | 4,5 | Linear equations with two unknowns.  -e*limination method.*  (Word problems) | By the end of the lesson, learners should be able to:  Solve equations with two unknowns using elimination method. | Worked examples.  Supervised practice.  Exercises. |  | *KLB BOOK 1*  *Pg 167* |  |
| 6 | Linear equations with two unknowns.  - *substitution method.*  (Whole numbers / word equations) | By the end of the lesson, learners should be able to:  Solve equations with two unknowns using substitution method. | Worked examples.  Supervised practice.  Exercise. |  | *KLB BOOK 1*  *Pg 168-170* |  |
| 4 | 1 | Linear equations with two unknowns.  - *substitution method.*  (Fractions) | By the end of the lesson, learners should be able to:  Solve equations with two unknowns using substitution method. | Problem solving.  Written exercise. |  | *KLB BOOK 1*  *Pg 168-170* |  |
| 2 | Linear Equations with two unknowns.  - *substitution method.*  *(Decimals)* | By the end of the lesson, learners should be able to:  Solve decimal fractions with two unknowns using substitution method. | Worked examples.  Supervised practice  Exercise. |  | *KLB BOOK 1*  *Pg 168-170* |  |
|  | 3,4 | CO-ORDINATES  AND  GRAPHS  Co-ordinate plane. | By the end of the lesson, learners should be able to:  Label co-ordinate axis, plane.  Locate points in the C/plane given (x, y). | Review the number line.  Discussion.  Oral exercise. | Geo-board,  Graph papers. | *KLB BOOK 1*  *Pg 182-4* |  |
| 5,6 | Plotting a graph of a line. | By the end of the lesson, learners should be able to:  Identify points that a line passes through.  Plot the corresponding graph. | Review solving of equations of lines.  Discover several points that a line passes though.  Supervised practice on plotting of graphs. | Geo-board,  Graph papers. | *KLB BOOK 1*  *Pg 182-4* |  |
| 5 | 1 | Further equations of lines. | By the end of the lesson, learners should be able to:  Plot graphs involving fractions and mixed fractions.  Rewrite equations in the form  y = m x + c. | Worked examples  Supervised practice.  Review exercises. | Geo-board,  Graph papers. | *KLB BOOK 1*  *Pg 185-8* |  |
| 2 | General graphs  (Whole numbers) | By the end of the lesson, learners should be able to:  Plot graphs of a given set of data, by first choosing an appropriate scale. | Worked examples  Supervised practice.  Review exercises. | Geo-board,  Graph papers. | *KLB BOOK 1*  *Pg 189-196* |  |
|  | 3 | General Graphs  Decimal  Numbers) | By the end of the lesson, learners should be able to:  Plot graphs of a given set of data, by first choosing an appropriate scale. | Worked examples  Supervised practice.  Review exercises. | Geo-board,  Graph papers. | *KLB BOOK 1*  *Pg 189-196* |  |
| 4 | General Graphs  Positive and Negative  Numbers) | By the end of the lesson, learners should be able to:  Plot graphs of a given set of data, by first choosing an appropriate scale. | Worked examples  Supervised practice.  Review exercises. | Graph papers. | *KLB BOOK 1*  *Pg 189-196* |  |
| 5,6 | General Graphs  (Curves / Word problems) | By the end of the lesson, learners should be able to:  Plot and sketch curves.  Express word problems graphically. | Worked examples  Supervised practice.  Review exercises. | Graph papers. | *KLB BOOK 1*  *Pg 189-196* |  |
| 6 | 1 | Simultaneous equations. | By the end of the lesson, learners should be able to:  Solve simultaneous equations graphically. | Review graph of a line.  Exercises.  Further problem solving. | Graph papers. | *KLB BOOK 1*  *Pg 188-9* |  |
| 2 | COMMERCIAL  ARITHMETIC  Unit price and total price. | By the end of the lesson, learners should be able to:  Calculate cost of items given the unit price. | Worked examples  Supervised practice.  Review exercises. |  | *KLB BOOK 1*  *Pg 171-2* |  |
| 6 | 3 | Currency  Exchange. | By the end of the lesson, learners should be able to:  Convert one currency to another given the exchange rates. | Informal discussion: Importance of Currency  Exchange.  Worked examples. | Newspapers: exchange rates. | *KLB BOOK 1*  *Pg 172-5* |  |
| 4 | Profit & loss. | By the end of the lesson, learners should be able to:  Calculate (%) Profit & Loss. | Q/A : Definitions of marked price, cost price.  Problem solving  Exercise. |  | *KLB BOOK 1*  *Pg 175-7* |  |
| 5 | Commissions. | By the end of the lesson, learners should be able to:  Solve problems related to sales & commissions. | Q/A: Definition of commission.  Problem solving |  | *KLB BOOK 1*  *Pg 178-9* |  |
| 6 | Discounts.  Word problems / miscellaneous exercise. | By the end of the lesson, learners should be able to:  Solve problems related to sales & discounts. | Q/A : Definitions of marked price, cost price, % discount.  Exercise.  Problem solving. |  | *KLB BOOK 1*  *Pg 177-8* |  |
| 7 | 1 | ANGLES & PLANE FIGURES  Types of angles. | By the end of the lesson, learners should be able to:  List types of angles.  State angle complements / supplements. | Worked examples  Supervised practice.  Review exercises. |  | *KLB BOOK 1*  *Pg 197-8* |  |
| 2 | Angles on a straight line, adjacent angles. | By the end of the lesson, learners should be able to:  Identify values of the said angles. | Oral practice.  Worked examples  Supervised practice.  Review exercises. |  | *KLB BOOK 1*  *Pg 199-200* |  |
| 3 | Angles at a point. | By the end of the lesson, learners should be able to:  Determine values of angles at a point. | Worked examples  Supervised practice.  Review exercises. |  | *KLB BOOK 1*  *Pg 201-6* |  |
| 4 | Angles on a transversal. | By the end of the lesson, learners should be able to:  Determine values of angles on a transversal. | Oral practice.  Supervised practice.  Review exercises. |  | *KLB BOOK 1*  *Pg 206-211* |  |
| 5 | Polygons. | By the end of the lesson, learners should be able to:  Apply angle properties of *triangles* in problem solving. | Solve problems. Identify interior & exterior angles, deducing their sums. |  | *KLB BOOK 1*  *Pg 218-228* |  |
| 6 | C.A.T. | |  |  |  |  |
| 8 | 1 | GEOMETRI-  CAL CONST-RUCTION  Perpendicular lines. | By the end of the lesson, learners should be able to:  Construct a line, perpendicular lines and a perpendicular bisector. | Geometrical construction. | Complete  Geometrical set. | *KLB BOOK 1*  *Pg 231-2* |  |
| 2 | Bisecting an angle. | By the end of the lesson, learners should be able to:  Bisect an angle. | Guided geometrical construction. | Complete  Geometrical set. | *KLB BOOK 1*  *Pg 232-3* |  |
| 3 | Constructing special angles using a ruler and a pair of compasses only. | By the end of the lesson, learners should be able to:  To construct various special angles using a ruler and a pair of compasses only. | Guided geometrical construction.  Supervised practice. | Complete  Geometrical set. | *KLB BOOK 1*  *Pg 233-4* |  |
| 4 | Constructing special angles using a ruler and a pair of compasses only.  (contd.) | By the end of the lesson, learners should be able to:  Construct various special angles using a ruler and a pair of compasses only. | Guided geometrical construction.  Supervised practice.  Exercises. | Complete  Geometrical set & BB set | *KLB BOOK 1*  *Pg 233-4* |  |
| 5 | Parallel lines. | By the end of the lesson, learners should be able to:  Construct two parallel lines. | Guided geometrical construction.  Supervised practice. | Complete  Geometrical set. | *KLB BOOK 1*  *Pg 235-6* |  |
| 6 | Proportional division of a line. | By the end of the lesson, learners should be able to:  Divide a line proportionally. | Guided geometrical construction.  Supervised practice. | Complete  Geometrical set. | *KLB BOOK 1*  *Pg 236-7* |  |
| 9 | 1 | Regular polygons. | By the end of the lesson, learners should be able to:  Construct regular polygons and determine sum of interior and exterior angles. | Guided geometrical construction.  Supervised practice.  Exercises. | Complete  Geometrical set. | *KLB BOOK 1*  *Pg 238-244* |  |
| 2 | Irregular polygons. | By the end of the lesson, learners should be able to:  Construct irregular polygons and determine sum of interior and exterior angles. | Guided geometrical construction.  Supervised practice.  Exercises. | Complete  Geometrical set. | *KLB BOOK 1*  *Pg 238-244* |  |
| 3 | Further constructions. | By the end of the lesson, learners should be able to:  Construct triangles given two sides and an angle; three sides. | Guided geometrical construction.  Supervised practice.  Exercises.  Exercise review. | Complete  Geometrical set. | *KLB BOOK 1*  *Pg 238-244* |  |
| 4 | SCALE DRAWING  The scale. | By the end of the lesson, learners should be able to:  Interpret statement scales and representative fractions. | Simple exercise on scales. | Maps. | *KLB BOOK 1*  *Pg 248-9* |  |
| 5 | Scale diagrams. | By the end of the lesson, learners should be able to:  Interpret scale diagrams. | Discuss actual and represented lengths.  Exercise. | Maps.  Diagrams drawn to scale. | *KLB BOOK 1*  *Pg 249-250* |  |
| 6 | Bearings. | By the end of the lesson, learners should be able to:  Determine the bearing of a point from a point. | Discussion & Exercise. | Maps.  Protractor  Ruler. | *KLB BOOK 1*  *Pg 251-2* |  |
| 10 | 1 | True bearings. | By the end of the lesson, learners should be able to:  State the true bearing of point from another point. | Discussion & Exercise  Problem solving. | Maps, protractors, rulers. | *KLB BOOK 1*  *Pg 252-6* |  |
| 2 | True bearings  Contd. | By the end of the lesson, learners should be able to:  Solve problems on bearings. | Problem solving. | Maps, protractors, rulers. | *KLB BOOK 1*  *Pg 252-6* |  |
| 3 | Angle of elevation. | By the end of the lesson, learners should be able to:  Define angle of elevation.  Solve problems related to angle of elevation. | Expository approach: leading to the definition of angle of elevation.  Review SOH, CAH, TOA.  Worked examples.  Exercise. | Protractor,  Clinometer. | *KLB BOOK 1*  *Pg 256-262* |  |
| 4 | Angle of depression. | By the end of the lesson, learners should be able to:  Define angle of elevation.  Solve problems related to angle of depression. | Expository approach: leading to the definition of angle of elevation.  Worked examples.  Exercise. | Protractor,  Clinometer. | *KLB BOOK 1*  *Pg 256-262* |  |
| 5 | Angles of elevation & depression. | By the end of the lesson, learners should be able to:  Solve problems related to angles of elevation & depression. | Worked examples.  Exercise. | Protractor,  Clinometer. | *KLB BOOK 1*  *Pg 256-262* |  |
| 6 | Triangulation. | By the end of the lesson, learners should be able to:  Define baseline, offsets.  Draw baseline, offsets on plot. | Expository approach: leading to the definition of baseline, offset.  Class experiments / Group work. | Model of parcel of land on a  Cardboard. | *KLB BOOK 1*  *Pg 262-270* |  |
| 11 | 1 | Triangulation.  Contd. | By the end of the lesson, learners should be able to:  Calculate area using triangulation method. | Problem solving.  Exercise. | Model of parcel of land on a  Cardboard. | *KLB BOOK 1*  *Pg 262-270* |  |
| 2 | COMMON SOLIDS  Common regular solids. | By the end of the lesson, the learner should be able to:  Identify and sketch common solids.  Count faces, edges and vertices of various polyhydra. | Q/A: Definition of a solid, examples of solids.  Present solids; students count no. of faces, edges and vertices. | Common solids. | *KLB BOOK 1*  *Pg 271-4* |  |
| 3 | Isometric projection | By the end of the lesson, the learner should be able to:  Sketch a solid using isometric projection. | Teacher exposes meaning of isometric projection, and then leads students in geometric construction. | Geometric set & BB set. | *KLB BOOK 1*  *Pg 275* |  |
| 4,5 | Nets of solids. | By the end of the lesson, the learner should be able to:  Sketch accurately nets of solids. | Teacher draws a net of a solid, then students draw nets of other solids; supervised practice. | Chart- nets of solids drawn. | *KLB BOOK 1*  *Pg 277-281* |  |
| 5,6 | Nets of solids. | By the end of the lesson, the learner should be able to:  Make models of solids. | Teacher makes a net of one solid, and students make nets of other solids. | Manilla papers, geometrical ser. | *KLB BOOK 1*  *Pg 277-281* |  |
| 12,  13 |  | *END OF YEAR EXAMS* | | | | |  |