**MATHEMATICS SCHEMES OF WORK**

**FORM THREE 2016**

**TERM I**

**REFERENCES:**

1. Advancing in Mathematics BK 4 By Longhorn Kenya Publishers
2. Secondary Mathematics BK 4 By KLB
3. Macmillan Secondary Maths BK 2
4. Explore Mathematics

Compiled by Schools Net Kenya (SNK) in partnership with Jospa Publishers | P.O. Box 3029 – 00200 Nairobi |

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| **WK** | **LSN** | **TOPIC** | **SUB-TOPIC** | **OBJECTIVES** | **L/ACTIVITIES** | **L/T AIDS** | **REFERENCE** | **REMARKS** |
| 1 |  | **REPORTING AND REVISION OF LAST TERM’S EXAMS** | | | | | |  |
| 2 | 1&2 | **REVISION** | | | | | |  |
|  | 3 | Quadratic Expressions And Equations | Factorize quadratic expressions | By the end of the les the learner should be able to factorise quadratic expressions | Learners factorize quadratic expressions | Previous work covered | Explore  Maths Bk3  Pg.66 |  |
| 4 | Quadratic Expressions And Equations | Perfect squares | By the end of the lesson the learner should be able to identify perfect squares | Learners identify perfect squares | Chalkboard illustrations | Explore  Maths Bk3  Pg.67 |  |
| 5 | Quadratic Expressions And Equations | Completing squares Completing the constant | By the end of the lesson the learner should be able to complete the constant part | Teacher/pupil discussion | Chalkboard illustrations | Explore  Maths Bk3  Pg.68 |  |
| 6 | Quadratic Expressions And Equations | Completing the coefficient of x | By the end of the lesson the learner should be able to Complete the coefficient of x in a quadratic expression | Teacher/pupil discussion | Chalkboard illustrations | Explore  Maths Bk3  Pg.69 |  |
| 7 | Quadratic Expressions And Equations | Completing the coefficient of x2 | By the end of the lesson the learner should be able to complete the coefficient of x2 in a quadratic expression | Learners Complete the coefficient of x2 | Chalkboard illustrations | Explore  Maths Bk3  Pg.70 |  |
| 3 | 1 | Quadratic Expressions And Equations | Solution of quadratic by Completing the square when coefficient of x2 is 1 | By the end of the lesson the learner should be able to solve quadratic equations whose coefficient of x2 is 1 by completing of the square method | Teacher/pupil discussion | Chalkboard illustrations | Explore  Maths Bk3  Pg.71 |  |
| 2 | Quadratic Expressions And Equations | Solving quadratic equation whose coefficient of x2 is greater than 1 by completing the square | By the end of the lesson the learner should be able to solve quadratic equations whose coefficient of x2 is greater than by completing the square | Teacher/pupil discussion | Chalkboard illustrations | Explore  Maths Bk3  Pg.72 |  |
| 3 | Quadratic Expressions And Equations | Quadratic formula | By the end of the lesson the learner should be able to derive the quadratic formula | Teacher leads pupils to derive the quadratic formula | Chalkboard illustrations | Explore  Maths Bk3  Pg.77 |  |
| 4 | Quadratic Expressions And Equations | Application of the quadratic formula | By the end of the lesson the learner should be able to Apply the quadratic formula and use it to solve quadratic equations | Learners solve quadratic equations using the quadratic formula | Chalkboard illustrations | Explore  Maths Bk3  Pg.78 |  |
| 5 | Quadratic Expressions And Equations | Forming quadratic equations from roots | By the end of the lesson the learner should be able to form quadratic equations from roots | Learners form quadratic equations from roots | Chalkboard illustrations | Explore  Maths Bk3  Pg.79 |  |
| 6 | Quadratic Expressions And Equations | Forming quadratic equations from given situation | By the end of the lesson the learner should be able to form quadratic equations from given situations | Learners form quadratic equations from given situation | Chalkboard illustrations | Explore  Maths Bk3  Pg.79 |  |
| 7 | Quadratic Expressions And Equations | Solving the formed equation using the formula method | By the end of the lesson the learner should be able to solve the formed equations using the formula method | Solving quadratic equations using the formula method | Chalkboard illustrations | Explore  Maths Bk3  Pg.80 |  |
| 4 | 1 | Quadratic Expressions And Equations | Table of values for a quadratic relation | By the end of the lesson the learner should be able to make table of values from a quadratic relation | Learners fill in the tables | Pencils rulers | Explore  Maths Bk3  Pg.81 |  |
| 2 | Quadratic Expressions And Equations | Quadratic graphs | By the end of the lesson the learner should be able to draw the graph of a quadratic relation | Learners draw graphs | Graph books square books | Explore  Maths Bk3  Pg.82 |  |
| 3 | Quadratic Expressions And Equations | Solving quadratic equations using graphs | By the end of the lesson the learner should be able to solve quadratic equations using graphs | Learners draw graphs and lines | - Graph books - square books | Explore  Maths Bk3  Pg.83 |  |
| 4 | Quadratic Expressions And Equations | Solving simultaneous equations | By the end of the lesson the learner should be able to solve simultaneous equations analytically and graphically. (one linear one quadratic) | Learners draw quadratic curve and some lines on the curve | - Graph books - square books  rulers | Explore  Maths Bk3  Pg.83 |  |
| 5 | Quadratic Expressions And Equations | Nature of roots | By the end of the lesson the learner should be able to state the three types of roots | Learners state the roots | Chalkboard illustrations  graph of quadratic curves | Explore  Maths Bk3  Pg.84 |  |
| 6 | Quadratic Expressions And Equations | Use discriminant to state the nature of roots | By the end of the lesson the learner should be able to use the discriminant to state the nature of the root | Learners state the volume of root using discriminant | Chalkboard illustrations | Explore  Maths Bk3  Pg.76 |  |
| 7 | Quadratic Expressions And Equations | Application to real life situation | By the end of the lesson the learner should be able to apply the knowledge of quadratic equations to real life situation | Learners solve problems | Chalkboard illustrations | Explore  Maths Bk3  Pg.77 |  |
| 5 | 1 | Approximation And Errors | Introduction to calculators | By the end of the lesson the learner should be able to know all the keys of the calculator | Learners use calculators to do simple computation | Calculators | Explore  Maths Bk3  Pg.7 |  |
| 2 | Approximation And Errors | Use of calculators in various computations | By the end of the lesson the learner should be able to use calculators in various computations | Learners compute using calculators | Calculators | Explore  Maths Bk3  Pg.2-5 |  |
| 3 | Approximation And Errors | Estimations and approximations | By the end of the lesson the learner should be able to make reasonable approximations and estimations of quantities computations and measurements | Learners should be able to approximate and estimate | Calculators | Explore  Maths Bk3  Pg.14 |  |
| 4 | Approximation And Errors | Significant figures | By the end of the lesson the learner should be able to express values to a given number of significant figures | Learners write numbers to a certain number of significant figures | Chalkboard illustrations | Explore  Maths Bk3  Pg.14 |  |
| 5 | Approximation And Errors | Definition of absolute, relative and percentage errors | By the end of the lesson the learner should be able to Define absolute, errors, relative error and percentage error | Teacher/pupil discussion | Chalkboard illustrations | Explore  Maths Bk3  Pg.15 |  |
| 6 | Approximation And Errors | Round off | By the end of the lesson the learner should be able to round off errors | Learners round off numbers | Chalkboard illustrations | Explore  Maths Bk3  Pg.16 |  |
| 7 | Approximation And Errors | Truncate errors | By the end of the lesson the learner should be able to truncate errors and calculate absolute, relative and percentage error | Learners truncate numbers | Chalkboard illustrations | Explore  Maths Bk3  Pg.17 |  |
| 6 | 1 | Approximation And Errors | Operation of errors.  Addition | By the end of the lesson the learner should be able to state the error involved when adding two measurements | Learners add numbers | Chalkboard illustrations | Explore  Maths Bk3  Pg.18 |  |
| 2 | Approximation And Errors | Error involved in subtraction | By the end of the lesson the learner should be able to  *© Education Plus Agencies*  state the error involved in subtraction | Learners calculate error involved in subtraction | Chalkboard illustrations | Explore  Maths Bk3  Pg.19 |  |
| 3 | Approximation And Errors | Error involved in multiplication | By the end of the lesson the learner should be able to state the error involved in multiplication | Learners calculate error involved in multiplication | Chalkboard illustrations | Explore  Maths Bk3  Pg.20 |  |
| 4 | Approximation And Errors | Error involved in division | By the end of the lesson the learner should be able to state the error involved in division | Learners calculate error involved in division | Chalkboard illustrations | Explore  Maths Bk3  Pg.21 |  |
| 5 | Approximation And Errors | Maximum and minimum errors | By the end of the lesson the learner should be able to find maximum and minimum errors from operations | Learners find minimum and maximum errors | Chalkboard illustrations | Explore  Maths Bk3  Pg.22 |  |
| 6 | Approximation And Errors | Error in calculating area of a triangle  A =½bh  A =½absin c  A =√s(s-a)(s-b)(s-c) | By the end of the lesson the learner should be able to calculate the error involved in calculating area of a triangle | Teacher/pupil discussion | Chalkboard illustrations | Explore  Maths Bk3  Pg.23 |  |
| 7 | Approximation And Errors | Problem solving | By the end of the lesson the learner should be able to solve problems on approximation and errors | Learners solve problems | Past paper questions | Explore  Maths Bk3  Pg.23 |  |
| 7 | 1 | Trigonometry | Review of form 2 work | By the end of the lesson the learner should be able to state the trigonometric ratios | Learners answer questions asked | Form two work | Explore  Maths Bk3  Pg.50 |  |
| 2 | Trigonometry | Unit circle | By the end of the lesson the learner should be able to define and draw the unit circle | Teacher/pupil discussion | Chart illustrating the unit circle  Graph books | Explore  Maths Bk3  Pg.51 |  |
| 3 | Trigonometry | Sin, Cos, Tan of angles between 900- 1800 | By the end of the lesson the learner should be able to find the sin, Cos, tan of angles between 900- 1800 using the unit circle | Teacher/pupil discussion | Graph books  Calculators | Explore  Maths Bk3  Pg.52 |  |
| 4 | Trigonometry | Sin, Cos, Tan of angles between 1800- 2700 | By the end of the lesson the learner should be able to find the sin, Cos, tan of angles between 1800- 2700 using the unit circle | Learners use unit circle to find Sin, Cos, Tan of angles | Graph books  Calculators | Explore  Maths Bk3  Pg.53 |  |
| 5 | Trigonometry | Sin, Cos, Tan of angles between 2700- 3600 using unit circle | By the end of the lesson the learner should be able to find the sin, Cos and tan of angles using the unit circle | Teacher/pupil discussion | Graph books | Explore  Maths Bk3  Pg.53 |  |
| 6 | Trigonometry | Sin, Cos, Tan of negative | By the end of the lesson the learner should be able to find the sin, cos and tan of negative angles | Teacher/pupil discussion | Calculators  Chalkboard illustrations | Explore  Maths Bk3  Pg.54 |  |
| 7 | Trigonometry | Sin, Cos, Tan of angles greater than 3600 | By the end of the lesson the learner should be able to find the sin, Cos, and tan of angles greater than 3600 | Teacher/pupil discussion | Calculators  Chalkboard illustrations | Explore  Maths Bk3  Pg.55 |  |
| 8 | 1 | Trigonometry | Sin, Cos, Tan of angles between 00- 3600 using mathematical tables | By the end of the lesson the learner should be able to find the sin, Cos, and tan of angles between 00 and 3600 | Learners must know  and use it to find Sin, Cos, Tan of angles  S  A  C  T | Mathematical tables  Chalkboard illustrations | Explore  Maths Bk3  Pg.56 |  |
| 2 | Trigonometry | Radian measure | By the end of the lesson the learner should be able to define radian measure and change degrees to radians | Learners change degrees to radians | Chalkboard illustrations Mathematical tables | Explore  Maths Bk3  Pg.57 |  |
| 3 | Trigonometry | Radian measure | By the end of the lesson the learner should be able to change radians to degrees | Learners convert | Chalkboard illustrations | Explore  Maths Bk3  Pg.59 |  |
| 4 | Trigonometry | Trigonometric graphs y = sinx | By the end of the lesson the learner should be able to draw the graph of  y = sinx using degrees and radians | Learners draw graphs | Calculators  Graph books  Maths tables | Explore  Maths Bk3  Pg.60 |  |
| 5 | Trigonometry | Trigonometric graphs y = cosx | By the end of the lesson the learner should be able to draw the graph of  y = cosx using degrees and radians | Learners draw graphs | Calculators  Graph books  Maths tables | Explore  Maths Bk3  Pg.61 |  |
| 6 | Trigonometry | Trigonometric graphs y = tanx | By the end of the lesson the learner should be able to draw the graph of  y = tanx | Learners draw the graphs | - Calculators  - Graph books  Maths tables | Explore  Maths Bk3  Pg.62 |  |
|  | 7 | Trigonometry | Sine rule | By the end of the lesson the learner should be able to derive the sine rule | Teacher/pupil discussion | - Calculators  - Chalkboard illustrations | Explore  Maths Bk3  Pg.63 |  |
| 9 | 1 | Trigonometry | Application of sine rule | By the end of the lesson the learner should be able to apply the sine rule | Teacher/pupil discussion | Chalkboard illustrations | Explore  Maths Bk3  Pg.64 |  |
| 2 | Trigonometry | Cosine rule | By the end of the lesson the learner should be able to derive the cosine rule | Teacher/pupil discussion | Chalkboard illustrations | Explore  Maths Bk3  Pg.64 |  |
| 3 | Trigonometry | Application of cosine rule | By the end of the lesson the learner should be able to apply the cosine rule | Teacher/pupil discussion | - Calculators  - Chalkboard illustrations | Explore  Maths Bk3  Pg.65 |  |
| 4 | Trigonometry | Application of both cosine rule and sine rule | By the end of the lesson the learner should be able to use the cosine rule to solve triangles | Teacher/pupil discussion | - Calculators  - Chalkboard illustrations | Explore  Maths Bk3  Pg.64 |  |
| 5 | Trigonometry | Problem solving | By the end of the lesson the learner should be able to solve problems on trigonometry | Teacher/pupil discussion | Past paper questions | Explore  Maths Bk3  Pg.65 |  |
| 6 | Surds | Rational and irrational numbers | By the end of the lesson the learner should be able to define a rational and irrational number and give examples of each | Teacher/pupil discussion | Chalkboard illustrations | Explore  Maths Bk3  Pg.41 |  |
| 7 | Surds | Simplify expressions with surd (addition of surds) | By the end of the lesson the learner should be able to simplify expressions with surd (addition) | Learners simplify | Chalkboard illustrations | Explore  Maths Bk3  Pg.42 |  |
| 10 | 1 | Surds | Subtraction of surds | By the end of the lesson the learner should be able to subtract surds | Learners subtract surds | Chalkboard illustrations | Explore  Maths Bk3  Pg.43 |  |
| 2 | Surds | Multiplication of surds | By the end of the lesson the learner should be able to multiply surds | Learners multiply surds | Chalkboard illustrations | Explore  Maths Bk3  Pg.44 |  |
| 3 | Surds | Rationalize denominator | By the end of the lesson the learner should be able to rationalise the denominator | Teacher/pupil discussion | Chalkboard illustrations | Explore  Maths Bk3  Pg.45 |  |
| 4 | Surds | Application to trigonometry | By the end of the lesson the learner should be able to apply surds to trigonometry | Learners apply surds to trigonometry | Chalkboard illustrations | Explore  Maths Bk3  Pg.46 |  |
| 5 | Surds | Problem solving | By the end of the lesson the learner should be able to solve problems on trigonometry | Learners solve problems | Past paper questions | Explore  Maths Bk3  Pg.47-49 |  |
| 6 | Further Logarithms | Logarithmic notation | By the end of the lesson the learner should be able to derive logarithmic relation from index form | Learners move from indices to logs | Chalkboard illustrations | Explore  Maths Bk3  Pg.86 |  |
| 7 | Further Logarithms | Laws of logarithms multiplication | By the end of the lesson the learner should be able to state and apply the law of multiplication | Teacher/pupil discussion | Chalkboard illustrations | Explore  Maths Bk3  Pg.87 |  |
| 11 | 1 | Further Logarithms | Law of division | By the end of the lesson the learner should be able to state and apply the law of division | Learners state law. Teacher/pupil discussion | Chalkboard illustrations | Explore  Maths Bk3  Pg.88 |  |
| 2 | Further Logarithms | Law of division powers | By the end of the lesson the learner should be able to state and apply the law of powers | Learners state law. Teacher/pupil discussion | Chalkboard illustrations | Explore  Maths Bk3  Pg.89 |  |
| 3 | Further Logarithms | Simplifying logarithmic expressions | By the end of the lesson the learner should be able to use logarithmic laws to simplify logarithmic expressions | Teacher/pupil discussion | Chalkboard illustrations | Explore  Maths Bk3  Pg.90 |  |
| 4 | Further Logarithms | Solving logarithmic equations | By the end of the lesson the learner should be able to use logarithmic laws to solve logarithmic equations | Teacher/pupil discussion | Chalkboard illustrations | Explore  Maths Bk3  Pg.91 |  |
| 5 | Further Logarithms | Application of logarithms | By the end of the lesson the learner should be able to apply laws of logarithms for further computation equations | Learners apply laws of trigonometry. | Chalkboard illustrations | Explore  Maths Bk3  Pg.92 |  |
| 6 | Further Logarithms | Problem solving | By the end of the lesson the learner should be able to solve problems on further logarithms. | Learners solve problems | Chalkboard illustrations | Explore  Maths Bk3  Pg.92 |  |
| 7 |  |  |  |  |  |  |  |
| 12 | 1 | Commercial Arithmetic | Principal, rate and time | By the end of the lesson the learner should be able to define principal, rate and time in relation to interest | Teacher/pupil discussion | Previous work covered | Explore  Maths Bk3  Pg.213 |  |
| 2 | Commercial Arythmetic | Simple interest | By the end of the lesson the learner should be able to calculate simple interest using simple interest formula | Teacher/pupil discussion | Chalkboard illustrations | Explore  Maths Bk3  Pg.214 |  |
| 3 | Commercial Arithmetic | Compound interest | By the end of the lesson the learner should be able to calculate compound interest using step by step method | Teacher/pupil discussion | Chalkboard illustrations | Explore  Maths Bk3  Pg.215 |  |
| 4 | Commercial Arithmetic | Deriving the compound interest formula | By the end of the lesson the learner should be able to derive the compound interest formula | Learners derive the formula  A = p(1-r)n  100 | Chalkboard illustrations | Explore  Maths Bk3  Pg.215 |  |
| 5 | Commercial Arithmetic | Calculating amount in compound interest | By the end of the lesson the learner should be able to calculate the amount in compound interest | Learners calculate the amount of compound interest | - Calculators  - Chalkboard illustrations | Explore  Maths Bk3  Pg.216 |  |
| 6 | Commercial Arythmetic | Calculating the rate in compound interest | By the end of the lesson the learner should be able to calculate the rate in compound interest | Learners calculate the rate | - Calculators  - Chalkboard illustrations | Explore  Maths Bk3  Pg.217 |  |
|  | 7 | Commercial Arythmetic | Calculating the time in compound interest | By the end of the lesson the learner should be able to calculate the time in compound interest | Learners calculate the time | - Calculators  - Chalkboard illustrations | Explore  Maths Bk3  Pg.218 |  |
| 13 | 1 | Commercial Arythmetic | Calculating the principal in compound interest | By the end of the lesson the learner should be able to calculate the principal in compound interest | Learners calculate the principal | - Calculators  - Chalkboard illustrations | Explore  Maths Bk3  Pg.219 |  |
| 2 | Commercial Arythmetic | Calculating the interest in compound interest | By the end of the lesson the learner should be able to calculate the interest in compound interest | Learners calculate the interest | - Calculators  - Chalkboard illustrations | Explore  Maths Bk3  Pg.220 |  |
| 3 | Commercial Arythmetic | Appreciation | By the end of the lesson the learner should be able to define appreciation and calculate problems involving appreciation | Learners calculate problems | Chalkboard illustrations | Explore  Maths Bk3  Pg.220 |  |
| 4 | Commercial Arythmetic | Depreciation  A = p(1-r)n  100 | By the end of the lesson the learner should be able to define depreciation and calculate problems involving depreciation | Learners calculate problems | - Calculators  - Chalkboard illustrations | Explore  Maths Bk3  Pg.221 |  |
| 5 | Commercial Arythmetic | Hire purchase | By the end of the lesson the learner should be able to calculate hire purchase | Learners calculate Hire purchase | - Calculators  - Chalkboard illustrations | Explore  Maths Bk3  Pg.222 |  |
| 6 | Commercial Arythmetic | Income tax | By the end of the lesson the learner should be able to calculate income tax given the income tax bands | Learners calculate income tax | - Calculators  - Chalkboard illustrations  - Income tax bands | Explore  Maths Bk3  Pg.223 |  |
| 7 | Commercial Arythmetic | Income tax | By the end of the lesson the learner should be able to calculate basic salary given income tax bands, income tax relief. | Learners calculate the basic salary | - Chalkboard illustrations  - Income tax bands | Explore  Maths Bk3  Pg.225-227 |  |
| 14 |  | **END OF TERM EXAMINATION** | | | | | |  |
| 15 |  | **PREPARATION OF REPORTS AND CLOSING** | | | | | |  |

**MATHEMATICS SCHEMES OF WORK**

**FORM THREE 2016**

**TERM II**

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| **WK** | **LSN** | **TOPIC** | **SUB-TOPIC** | **OBJECTIVES** | **L/ACTIVITIES** | **L/T AIDS** | **REFERENCE** | **REMARKS** |
| 1 | 1-6 | **REPORTING AND REVISION OF LAST TERM’S EXAMS** | | | | | |  |
| 2 | 1&2 | **REVISION OF EXAMS** | | | | | |  |
|  | 3 | Circles, Chords And Tangents | Length of a arc | By the end of the lesson the learner should be able to calculate the length of a arc | Learners draw circle calculate length of an arc | Previous work covered | Explore  Maths Bk3  Pg107 |  |
| 4 | Circles, Chords And Tangents | Chord  A line from the centre of a circle is a perpendicular bisector of a chord | By the end of the lesson the learner should be able to prove the property of a c and a perpendicular line perpendicular to a chord | Learners draw circle and prove the property | - Chalkboard illustrations  - Pair of compass | Explore  Maths Bk3  Pg.102 |  |
| 5 | Circles, Chords And Tangents | Equal chords | By the end of the lesson the learner should be able to state the property of equal chords and use it to calculate measurements | Learners use the property to calculate measurements | - Pair of compass,  - ruler  - Chalkboard illustrations | Explore  Maths Bk3  Pg.103 |  |
| 6 | Circles, Chords And Tangents | Parallel chords on the same side of the centre of a circle | By the end of the lesson the learner should be able to state the property of Parallel chords and use it to calculate measurements | Learners  calculate measurements | - Pair of compass,  - ruler  - Chalkboard illustrations | Explore  Maths Bk3  Pg.103 |  |
| 7 | Circles, Chords And Tangents | Parallel chords on an opposite side of the centre of a circle | By the end of the lesson the learner should be able to calculate the radius of a circle given two parallel chords on opposite sides of the circle | Learners  calculate | Chalkboard illustrations | Explore  Maths Bk3  Pg. |  |
| 3 | 1 | Circles, Chords And Tangents | Intersecting chords (intersect inside a circle) | By the end of the lesson the learner should be able to calculate the length of chords that intersect inside a circle | Learners use similarity to derive a formula to calculate the length of a chord | Chalkboard illustrations | Explore  Maths Bk3  Pg.104 |  |
| 2 | Circles, Chords And Tangents | Intersecting chords (intersect outside a circle) | By the end of the lesson the learner should be able to calculate the length of chords that intersect outside a circle | Learners use similarity to derive a formula | Chalkboard illustrations | Explore  Maths Bk3  Pg104 |  |
| 3 | Circles, Chords And Tangents | Tangent to a circle | By the end of the lesson the learner should be able to construct a tangent to a circle | Teacher/pupil discussion | - Pair of compass,  - ruler  - Chalkboard illustrations | Explore  Maths Bk3  Pg105 |  |
| 4 | Circles, Chords And Tangents | Constructing a tangent from an external point | By the end of the lesson the learner should be able to construct a tangent from an external point | Teacher/pupil discussion | - Pair of compass,  - Ruler  - Chalkboard illustrations | Explore  Maths Bk3  Pg138-139 |  |
| 5 | Circles, Chords And Tangents | Direct common Tangent | By the end of the lesson the learner should be able t construct a direct common tangent to two circles | Teacher/pupil discussion | - Pair of compass,  - Ruler  - Chalkboard illustrations | Explore  Maths Bk3  Pg140-143 |  |
| 6 | Circles, Chords And Tangents | Transverse Tangents | By the end of the lesson the learner should be able to construct a transverse common tangent to two circles | Teacher/pupil discussion | - Pair of compass,  - ruler  - set square | Explore  Maths Bk3  Pg. 151 |  |
| 7 | Circles, Chords And Tangents | Angles in alternate segment | By the end of the lesson the learner should be able to relate angles in alternate segment | Teacher/pupil discussion | - Pair of compass,  - ruler | Explore  Maths Bk3  Pg153 |  |
| 4 | 1 | Circles, Chords And Tangents | Circumscribed circle | By the end of the lesson the learner should be able to construct a circumscribed circle | Teacher/pupil discussion | - Pair of compass,  - ruler | Explore  Maths Bk3  Pg. 147 |  |
| 2 | Circles, Chords And Tangents | Inscribed circle | By the end of the lesson the learner should be able to construct an inscribed circle | Teacher/pupil discussion | - Ruler  - Pair of compass, | Explore  Maths Bk3  Pg206 |  |
| 3 | Circles, Chords And Tangents | Escribed circle | By the end of the lesson the learner should be able to construct an escribed circle | Discussion | - Ruler  - pair of compass | Explore  Maths Bk3  Pg208 |  |
| 4 | Circles, Chords And Tangents | Contact circle  Internal contact | By the end of the lesson the learner should be able to solve problems on contact circles (internal contact) | Teacher/pupil discussion | - Ruler  - Pair of compass | Explore  Maths Bk3  Pg210 |  |
| 5 | Circles, Chords And Tangents | external contact | By the end of the lesson the learner should be able to solve problems on contact circles which are external contact | Learners draw two circles with external contact | - Pair of compass  - Chalkboard illustrations | Explore  Maths Bk3  Pg146 |  |
| 6 | Circles, Chords And Tangents | Centroid | By the end of the lesson the learner should be able to locate centroid of a circle | Learners draw a triangle and locate the centroid | - Pair of compass  - Chalkboard illustrations | Explore  Maths Bk3  Pg211 |  |
| 7 | Circles, Chords And Tangents | Orthocenter | By the end of the lesson the learner should be able to locate orthocenter of a circle | Learners draw a triangle and locate the orthocentre | - Pair of compass  - Chalkboard illustrations | Explore  Maths Bk3  Pg211 |  |
| 5 | 1 | Circles, Chords And Tangents | Application of tangents and chords to real life situation | By the end of the lesson the learner should be able to apply the knowledge of tangents and chords to real life situation | Teacher/pupil discussion | - Pulleys  - A bicycle  - calculator | Explore  Maths Bk3  Pg153-154 |  |
| 2 | Circles, Chords And Tangents | Problem solving | By the end of the lesson the learner should be able to solve problems on tangents and chords | Question answer method | Past paper questions | Explore  Maths Bk3  Pg212 |  |
| 3 | Circles, Chords And Tangents | Problem solving | By the end of the lesson the learner should be able to solve problems on real life situations | Question answer method | Past paper questions | Past papers |  |
| 4 | Matrices | Definition order of a matrix | By the end of the lesson the learner should be able to define a matrix  State the order of a matrix | Teacher defines, learners state the order | Chalkboard illustrations | Explore  Maths Bk3  Pg93 |  |
| 5 | Matrices | Square matrix | By the end of the lesson the learner should be able to define a square matrix and use it to state its order | Learners give examples of square matrices | Chalkboard illustrations | Explore  Maths Bk3  Pg94 |  |
| 6 | Matrices | Addition of matrices | By the end of the lesson the learner should be able to add two matrices | Learners add matrices | - Chalkboard illustrations  - calculators | Explore  Maths Bk3  Pg94 |  |
| 7 | Matrices | subtraction of matrices | By the end of the lesson the learner should be able to subtract two matrices | Learners subtract matrices | - Chalkboard illustrations  - calculators | Explore  Maths Bk3  Pg95 |  |
| 6 | 1 | Matrices | multiplication by a scalar | By the end of the lesson the learner should be able to  *© Education Plus Agencies*  multiply a matrix and a scalar | Learners multiply a matrix by a scalar | - Chalkboard illustrations  - calculators | Explore  Maths Bk3  Pg96 |  |
| 2 | Matrices | multiplication of two matrices | By the end of the lesson the learner should be able to multiply two matrices | Learners multiply two matrices | - Chalkboard illustrations  - calculators | Explore  Maths Bk3  Pg97-99 |  |
| 3 | Matrices | Identify matrix | By the end of the lesson the learner should be able to identify an identity matrix | Learners identify an identity matrix | - Chalkboard illustrations | Explore  Maths Bk3  Pg180-182 |  |
| 4 | Matrices | Determinant of a matrix | By the end of the lesson the learner should be able to find the determinant of a 2 by 2 matrix | Learners find the determinant of a matrix | - Chalkboard illustrations  - calculators | Explore  Maths Bk3  Pg182 |  |
| 5 | Matrices | Inverse of 2 by 2 matrix | By the end of the lesson the learner should be able to find the inverse of a 2 by 2 matrix | Teacher leads pupil to find the inverse | Chart illustrating the steps of finding the inverse | Explore  Maths Bk3  Pg182-183 |  |
| 6 | Matrices | Singular matrix | By the end of the lesson the learner should be able to identify a singular matrix and find the elements of a singular matrix | Learners identify singular matrix | - Chalkboard illustrations  - calculators | Explore  Maths Bk3  Pg184 |  |
| 7 | Matrices | Solving simultaneous equations | By the end of the lesson the learner should be able to solve simultaneous equations by the matrix method | Teacher leads pupil to solve simultaneous equations | - Chalkboard illustrations  - calculators | Explore  Maths Bk3  Pg185 |  |
| 7 | 1 | Matrices | Solving simultaneous equations which have fractions using matrices | By the end of the lesson the learner should be able to solve simultaneous equations which involve fractions by the matrix method | Learners solve equations | - Chalkboard illustrations  - calculators | Explore  Maths Bk3  Pg186-187 |  |
| 2 | Matrices | Problem solving | By the end of the lesson the learner should be able to solve problems involving matrices | Learners solve problems | Past paper questions | Explore  Maths Bk3  Pg188 |  |
| 3 | Formulae And Variations | Change of subject | By the end of the lesson the learner should be able to rewrite a given formula by changing the subject | Learners change subjects of simple formula | Chart illustrating change of subject | Explore  Maths Bk3  Pg37 |  |
| 4 | Formulae And Variations | Change of subject involving roots and subjects | By the end of the lesson the learner should be able to rewrite a given formula by changing the subject especially formulas with roots and powers | Teacher leads pupil to make subject of formula | Chalkboard illustrations | Explore  Maths Bk3  Pg38-39 |  |
| 5 | Formulae And Variations | Direct variation | By the end of the lesson the learner should be able to define direct variation  Identify the constant of proportionality | Teacher/pupil discussion | Chalkboard illustrations | Explore  Maths Bk3  Pg112 |  |
| 6 | Formulae And Variations | Graphs of direct variation | By the end of the lesson the learner should be able to draw graphs of direct variation | Learners draw graphs | Graph papers | Explore  Maths Bk3  Pg113-118 |  |
| 7 | Formulae And Variations | Inverse variation | By the end of the lesson the learner should be able to define inverse variation  Determine the constant of proportionality | Teacher/pupil discussion | Chalkboard illustrations | Explore  Maths Bk3  Pg119 |  |
| 8 | 1 | Formulae And Variations | Graphs of inverse variation | By the end of the lesson the learner should be able to draw the graph of inverse variation | Learners draw graphs | - Graph papers  - Chalkboard illustrations | Explore  Maths Bk3  Pg120 |  |
| 2 | Formulae And Variations | Joint variation | By the end of the lesson the learner should be able to define joint variation  Determine the constant of proportionality | Learners solve given problems | Chalkboard illustrations | Explore  Maths Bk3  Pg121 |  |
| 3 | Formulae And Variations | Percentage change in variable | By the end of the lesson the learner should be able to Determine the percentage change in a variable given the increase and decrease of the other variable | Teacher/pupil discussion | Chalkboard illustrations | Explore  Maths Bk3  Pg122 |  |
| 4 | Formulae And Variations | Partial variation | By the end of the lesson the learner should be able to define partial variation  Determine the constant of proportionality in partial variation | Teacher/pupil discussion | Chalkboard illustrations | Explore  Maths Bk3  Pg123 |  |
| 5 | Formulae And Variations | Partial variation problem solving | By the end of the lesson the learner should be able to solve problems on partial variation | Learners form equations from given information | Chalkboard illustrations | Explore  Maths Bk3  Pg123 |  |
| 6 | Formulae And Variations | Formation and solving equations | By the end of the lesson the learner should be able to form and solve problems on partial variation | Learners solve problems | Chalkboard illustrations | Explore  Maths Bk3  Pg124 |  |
|  | 7 | Formulae And Variations | Application to real life situation | By the end of the lesson the learner should be able to use variation to solve everyday life problems | Learners answer questions | Chalkboard illustrations | Explore  Maths Bk3  Pg125 |  |
| 9 | 1 | Formulae And Variations | Problem solving | By the end of the lesson the learner should be able to solve problems on formula and variation | Learners solve problems | Chalkboard illustrations | Explore  Maths Bk3  Pg125 Past papers |  |
| 2 | Sequences And Series | Number patens | By the end of the lesson the learner should be able to Identify simple number patens | Learners identify number patens | Chart illustrating different number patens | Explore  Maths Bk3  Pg189 |  |
| 3 | Sequences And Series | Number patens | By the end of the lesson the learner should be able to Identify the patens for a given set of numbers and deduce the general rule | Learners deduce the general rule | Chalkboard illustrations | Explore  Maths Bk3  Pg190-191 |  |
| 4 | Sequences And Series | Sequence | By the end of the lesson the learner should be able to define a sequence  Determine a term in a sequence | Learners define sequence | Chalkboard illustrations | Explore  Maths Bk3  Pg192 |  |
| 5 | Sequences And Series | Arithmetic Sequence | By the end of the lesson the learner should be able to define the arithmetic Sequence and state a term in arithmetic Sequence | Learners should be able to use the formula a+(n-1)d to find a term | - Chalkboard illustrations  - calculators | Explore  Maths Bk3  Pg194 |  |
| 6 | Sequences And Series | Arithmetic Sequence | By the end of the lesson the learner should be able to apply the formula a+(n-1)d to find the first term and the common difference | Learners calculate the first term and the common difference | - Chalkboard illustrations  - calculators | Explore  Maths Bk3  Pg195 |  |
| 7 | Sequences And Series | Geometric Sequence | By the end of the lesson the learner should be able to define a geometric sequence and state a term in the geometric sequence | Learners use the formula arn-1 to find a term | - Chalkboard illustrations  - calculators | Explore  Maths Bk3  Pg195 |  |
| 10 | 1 | Sequences And Series | Geometric Sequence | By the end of the lesson the learner should be able to apply the formula arn-1 to find the first term and the common ratio | Learners calculate the first term | - Chalkboard illustrations  - calculators | Explore  Maths Bk3  Pg196 |  |
| 2 | Sequences And Series | Arithmetic series | By the end of the lesson the learner should be able to define an arithmetic series | Discussions | Chalkboard illustrations | Explore  Maths Bk3  Pg197 |  |
| 3 | Sequences And Series | Deriving the arithmetic series formula | By the end of the lesson the learner should be able to derive the formula sn=n (2a+(n-1)d) | Learners derive the formula | Chalkboard illustrations | Explore  Maths Bk3  Pg198 |  |
| 4 | Sequences And Series | Application of AP formula | By the end of the lesson the learner should be able to apply the A-P formula to solve problems | Learners solve problems | - Chalkboard illustrations  - calculators | Explore  Maths Bk3  Pg199-200 |  |
| 5 | Sequences And Series | Geometric series | By the end of the lesson the learner should be able to define a geometric series | Discussions | illustrations | Explore  Maths Bk3  Pg201 |  |
| 6 | Sequences And Series | Deriving the Geometric series | By the end of the lesson the learner should be able to derive the formula  sn=a(rn-1)  r-1 or  sn=a(1- rn)  1-r | Learners derive the formula | - Chalkboard illustrations  - calculators | Explore  Maths Bk3  Pg202 |  |
| 7 | Sequences And Series | Application of the AP formula | By the end of the lesson the learner should be able to apply the GP formula to solve problems | Learners solve problems | Chalkboard illustrations | Explore  Maths Bk3  Pg203-204 |  |
| 11 | 1 | Sequences And Series | Application to real life situation | By the end of the lesson the learner should be able to apply the A.P and G.P formula to solve problems in real life situations | Learners solve problems | Chalkboard illustrations | Explore  Maths Bk3  Pg205 |  |
| 2 | Sequences And Series | Problem solving | By the end of the lesson the learner should be able to solve problems on sequence and series | Learners solve problems | Past paper questions | Past papers |  |
| 3 | Vector (2) | Coordinates in two dimensions | By the end of the lesson the learner should be able to locate a point in two dimension coordinate system | Learners draw a Cartesian plane and locate a point | Chart illustrating two dimension coordinates | Explore  Maths Bk3  Pg234 |  |
| 4 | Vector (2) | Coordinates in 3 dimensions | By the end of the lesson the learner should be able to locate a point in three dimension coordinate system | Learners draw a 3 dimension Cartesian plane and locate a point | Model of cube and a cuboid | Ex Explore  Maths Bk3  Pg 235 |  |
| 5 | Vector (2) | Column vector in 3 dimensions | By the end of the lesson the learner should be able to represent vectors as column vectors in three dimension | Learners represent vectors in 3 dimension | Model of a cube | Explore  Maths Bk3  Pg235 |  |
| 6 | Vector (2) | Position vector in 3 dimensions | By the end of the lesson the learner should be able to represent vectors as position vectors in three dimension | Teacher/pupil discussion | Chalkboard illustrations | Explore  Maths Bk3  Pg235 |  |
| 7 | Vector (2) | Column vector and  Position vector | By the end of the lesson the learner should be able to distinguish between a column vector from a position vector | Teacher/pupil discussion | Chalkboard illustrations | Explore  Maths Bk3  Pg237 |  |
| 12 | 1 | Vector (2) | Column vectors in terms of I , j and k | By the end of the lesson the learner should be able to represent column vectors in terms of I , j and k | Teacher/pupil discussion | Chalkboard illustrations | Explore  Maths Bk3  Pg236 |  |
| 2 | Vector (2) | Magnitude of vector in 3 dimension | By the end of the lesson the learner should be able to determine the magnitude of a vector in three dimensions | Teacher/pupil discussion | Chalkboard illustrations | Explore  Maths Bk3  Pg238 |  |
| 3 | Vector (2) | Internal division of a line | By the end of the lesson the learner should be able to use vector method to divide a line internally | Teacher/pupil discussion | illustrations | Explore  Maths Bk3  Pg245 |  |
| 4 | Vector (2) | External division of a line | By the end of the lesson the learner should be able to use vector method in dividing a line externally | Learners state the ratio in which a point divides a line | Chalkboard illustrations | Explore  Maths Bk3  Pg246 |  |
| 5 | Vector (2) | Parallel vectors | By the end of the lesson the learner should be able to use vector method to show collinearity | Learners show parallelism | Chalkboard illustrations | Explore  Maths Bk3  Pg243 |  |
| 6 | Vector (2) | Co linearity | By the end of the lesson the learner should be able to show collinearity | Learners show collinearity | Chalkboard illustrations | Explore  Maths Bk3  Pg244 |  |
|  | 7 | Vector (2) | Problem solving | By the end of the lesson the learner should be able to solve problems on vectors | Learners solve problems | Past paper questions | Past papers |  |
| 13 | 1 | Vector (2) |  | By the end of the lesson the learner should be able to |  |  | Explore  Maths Bk3  Pg |  |
| 2 | Vector (2) |  | By the end of the lesson the learner should be able to |  |  | Explore  Maths Bk3  Pg |  |
| 3 | Vector (2) |  | By the end of the lesson the learner should be able to |  |  | Explore  Maths Bk3  Pg |  |
| 4 | Vector (2) |  | By the end of the lesson the learner should be able to |  |  | Explore  Maths Bk3  Pg |  |
| 5 | Vector (2) |  | By the end of the lesson the learner should be able to |  |  | Explore  Maths Bk3  Pg |  |
| 6 | Vector (2) |  | By the end of the lesson the learner should be able to |  |  | Explore  Maths Bk3  Pg |  |
| 7 | Vector (2) |  | By the end of the lesson the learner should be able to |  |  | Explore  Maths Bk3  Pg |  |
| 14 | **END TERM EXAMINATION AND CLOSSING SCHOOL** | | | | | |  |  |

**MATHEMATICS SCHEMES OF WORK**

**FORM THREE 2016**

**TERM III**

**REFERENCES:**

1. Advancing in Mathematics BK 4 By Longhorn Kenya Publishers
2. Secondary Mathematics BK 4 By KLB
3. Macmillan Secondary Maths BK 2
4. Explore Mathematics

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **WK** | **LSN** | **TOPIC** | **SUB-TOPIC** | **OBJECTIVES** | **L/ACTIVITIES** | **L/T AIDS** | **REFERENCE** | **REMARKS** |
| 1 | 1-6 | **REPORTING AND REVISION OF LAST TERM’S EXAMS** | | | | | |  |
| 2 | 1&2 | **REVISION OF EXAMS** | | | | | |  |
|  | 3 | Vector (2) | Deriving the ratio theorem for internal division of a line | By the end of the lesson the learner should be able to derive the ratio theorem for internal division of a line | Teacher/pupil discussion | Chalkboard illustrations | Explore  Maths Bk3  Pg. 258 |  |
| 4 | Vector (2) | Deriving the ratio theorem for external division of a line | By the end of the lesson the learner should be able to derive the ratio theorem for external division of a line | Teacher/pupil discussion | Chalkboard illustrations | Explore  Maths Bk3  Pg.267 |  |
| 5 | Vector (2) | Application of the ratio theorem | By the end of the lesson the learner should be able to apply ratio theorem to solve a vector problem | Learners use the ratio theorem | Chalkboard illustrations | Explore  Maths Bk3  Pg.268-269 |  |
| 6 | Vector (2) | Application of vector to geometry | By the end of the lesson the learner should be able to apply vector to geometry | Learners apply vector to geometry | Chalkboard illustrations | Explore  Maths Bk3  Pg.261-263 |  |
| 7 | Vector (2) | Problem solving | By the end of the lesson the learner should be able to solve problems on vectors | Learners solve problems | Past paper questions | Past papers |  |
| 3 | 1 | Binomial Expansions | Expansion up to power 4 | By the end of the lesson the learner should be able to expand binomial expressions up to power 4 by multiplication | Learners expand the expansions | Chalkboard illustrations | Explore  Maths Bk3  Pg.228 |  |
| 2 | Binomial Expansions | Pascal’s triangle | By the end of the lesson the learner should be able to build up Pascal’s triangle up to the eleventh raw | Teacher/pupil discussion | Chart illustrating Pascal’s triangle illustrations | Explore  Maths Bk3  Pg.229 |  |
| 3 | Binomial Expansions | Coefficient of terms in binomial expansion | By the end of the lesson the learner should be able to use Pascal’s triangle to determine the coefficient of terms in a binomial expansion up to the power of 10 | Learners determine the coefficient | Chalkboard illustrations | Explore  Maths Bk3  Pg.230 |  |
| 4 | Binomial Expansions | Computation using binomial expansion | By the end of the lesson the learner should be able to compute using binomial expansion | Learners compute using the expansion | Chalkboard illustrations | Explore  Maths Bk3  Pg.231 |  |
| 5 | Binomial Expansions | Stating terms | By the end of the lesson the learner should be able to state a certain term in a binomial expansion | Learners state the terms | Chalkboard illustrations | Explore  Maths Bk3  Pg.232 |  |
| 6 | Binomial Expansions | Numerical cases | By the end of the lesson the learner should be able to apply binomial expansion to numerical cases | Learners apply expansions to numerical cases | Chalkboard illustrations | Explore  Maths Bk3  Pg.232 |  |
| 7 | Binomial Expansions | Problem solving | By the end of the lesson the learner should be able to solve problems on binomial expansions | Learners solve problems | Chalkboard illustrations | Explore  Maths Bk3  Pg.233 |  |
| 4 | 1 | Probability | Definition experimental probability | By the end of the lesson the learner should be able to Define probability  Determine probability from experiments | - Learners toss a coin and write down the outcome on a table.  - Learners toss a dice | - Coin  - Die | Explore  Maths Bk3  Pg.171 |  |
| 2 | Probability | Probability from real life situation | By the end of the lesson the learner should be able to give examples of real life situation and give their probabilities | Learners state real life examples | Chalkboard illustrations | Explore  Maths Bk3  Pg.172-173 |  |
| 3 | Probability | Construct a probability space | By the end of the lesson the learner should be able to construct a probability space | Learners construct a probability space by tossing two dice at the same time | - Coin  - Die | Explore  Maths Bk3  Pg.174 |  |
| 4 | Probability | Range of probability measure | By the end of the lesson the learner should be able to state the range of probability measure | Learners state the range of probability | Chalkboard illustrations | Explore  Maths Bk3  Pg.175 |  |
| 5 | Probability | Theoretical probability | By the end of the lesson the learner should be able to determine theoretical probability | Learners determine theoretical probability | Chalkboard illustrations | Explore  Maths Bk3  Pg.176 |  |
| 6 | Probability | Discrete probability | By the end of the lesson the learner should be able to define discrete probability and determine the probability | Learners give examples of discrete  probability | - Chalkboard illustrations  - calculators | Explore  Maths Bk3  Pg.177 |  |
| 7 | Probability | Continuous probability | By the end of the lesson the learner should be able to define continuous probability and determine the probability | Learners give examples of continuous  probability | - Chalkboard illustrations  - calculators | Explore  Maths Bk3  Pg.247 |  |
| 5 | 1 | Probability | Mutually exclusive events | By the end of the lesson the learner should be able to define mutually exclusive events and give examples | Learners give examples | Chalkboard illustrations | Explore  Maths Bk3  Pg.249 |  |
| 2 | Probability | Solve problems involving mutually exclusive events | By the end of the lesson the learner should be able to solve problems involving mutually exclusive events | Teacher/pupil discussion | Chalkboard illustrations | Explore  Maths Bk3  Pg.250 |  |
| 3 | Probability | Independent events | By the end of the lesson the learner should be able to define independent events and give examples | Teacher/pupil discussion | Chalkboard illustrations | Explore  Maths Bk3  Pg.251 |  |
| 4 | Probability | Problem solving on independent events | By the end of the lesson the learner should be able to solve problems involving independent events | Teacher/pupil discussion | Chalkboard illustrations | Explore  Maths Bk3  Pg.252 |  |
| 5 | Probability | Problem solving on independent events | By the end of the lesson the learner should be able to state the laws of probability | Learners state laws | Chalkboard illustrations | Explore  Maths Bk3  Pg.253 |  |
| 6 | Probability | Application of the laws | By the end of the lesson the learner should be able to apply the laws of probability | Learners solve problems | Chalkboard illustrations | Explore  Maths Bk3  Pg.254 |  |
| 7 | Probability | Tree diagrams | By the end of the lesson the learner should be able to use tree diagrams to show probabilities | Learners draw tree diagrams from given information | Chalkboard illustrations | Explore  Maths Bk3  Pg.255 |  |
| 6 | 1 | Probability | Tree diagrams (with replacement) | By the end of the lesson the learner should be able to  *© Education Plus Agencies*  solve problems of picking items with replacement using tree diagrams | Learners draw trees from information | - Chalkboard illustrations  - calculators | Explore  Maths Bk3  Pg.256 |  |
| 2 | Probability | Without replacement | By the end of the lesson the learner should be able to solve problems of picking items with replacement using tree diagrams | Learners draw trees diagrams from information | - Chalkboard illustrations  - calculators | Explore  Maths Bk3  Pg.257 |  |
| 3 | Probability | Problem solving | By the end of the lesson the learner should be able to solve problems on probability | Learners solve problems | - Calculators  - Past paper questions | Explore  Maths Bk3  Pg.256 |  |
| 4 | Probability | Definition of terms used | By the end of the lesson the learner should be able to explain terms like at least, at most, not more than, not less than with respect to probability | Learners define terms | Dictionary | Explore  Maths Bk3  Pg.257 |  |
| 5 | Compound Proportions And Rates Of Work | Proportional parts Ratio method | By the end of the lesson the learner should be able to solve problems involving compound proportions using the ratio method | Teacher/pupil discussion | Calculators | Explore  Maths Bk3  Pg.126  131-132 |  |
| 6 | Compound Proportions And Rates Of Work | Proportional parts Unitary method | By the end of the lesson the learner should be able to solve problems involving compound proportions using the unitary method | Teacher/pupil discussion | Calculators | Explore  Maths Bk3  Pg.127 |  |
| 7 | Compound Proportions And Rates Of Work | Application of ratios to real life situation | By the end of the lesson the learner should be able to apply ratios to real life situations | Learners apply ratios to real life situations | Chalkboard illustrations | Explore  Maths Bk3  Pg.128 |  |
| 7 | 1 | Compound Proportions And Rates Of Work | Application of proportion to real life situation | By the end of the lesson the learner should be able to apply proportion to real life situation | Learners apply proportion to real life situation | Chalkboard illustrations | Explore  Maths Bk3  Pg.129 |  |
| 2 | Compound Proportions And Rates Of Work | Rates of work | By the end of the lesson the learner should be able to solve problems involving rates of work | Teacher/pupil discussion | Chalkboard illustrations | Explore  Maths Bk3  Pg.133 |  |
| 3 | Compound Proportions And Rates Of Work | Mixtures | By the end of the lesson the learner should be able to calculate the ratio in which the mixture must be mixed | Learners calculate ratio of the mixture | - Chalkboard illustrations  - calculators | Explore  Maths Bk3  Pg.134 |  |
| 4 | Compound Proportions And Rates Of Work | Mixtures | By the end of the lesson the learner should be able to calculate the cost of the mixture given the ratio in which the mixture is mixed | Learners calculate cost of mixture | - Chalkboard illustrations  - calculators | Explore  Maths Bk3  Pg.135 |  |
| 5 | Compound Proportions And Rates Of Work | Problem solving | By the end of the lesson the learner should be able to solve problems on compound proportions and rates of work | Learners solve problems | Past paper questions | Explore  Maths Bk3  Pg.136-137 |  |
| 6 | Graphical Methods | Tables from a given relation | By the end of the lesson the learner should be able to make a table of values from given relations | Learners make tables of values | Relations | Explore  Maths Bk3  Pg.271 |  |
| 7 | Graphical Methods | Drawing graphs | By the end of the lesson the learner should be able to use the table of values to draw graph of the relations | Learners draw graphs | Tables tabulated | Explore  Maths Bk3  Pg.272 |  |
| 8 | 1 | Graphical Methods | Cubic equations | By the end of the lesson the learner should be able to graph cubic equations | Learners draw cubic graphs | Graph papers | Explore  Maths Bk3  Pg.274 |  |
| 2 | Graphical Methods | Solution of cubic equations | By the end of the lesson the learner should be able to state the graphical solutions of cubic equations | Learners read out the solutions from the graph | Cubic graphs | Explore  Maths Bk3  Pg.275 |  |
| 3 | Graphical Methods | Average rate of change | By the end of the lesson the learner should be able t determine the average rate of change | Teacher/pupil discussion | Chalkboard illustrations Graphs | Explore  Maths Bk3  Pg.278-279 |  |
| 4 | Graphical Methods | Instantaneous rate of change | By the end of the lesson the learner should be able to determine and interpret instantaneous rate of change from the graph | Teacher/pupil discussion | Graphs draws | Explore  Maths Bk3  Pg.280-283 |  |
| 5 | Graphical Methods | Empirical graphs  Rewriting the equation in the form of y=mx+c | By the end of the lesson the learner should be able to rewrite equations given in the form of y=mx+c to give a straight line graph | Learners rewriting equations in the form y=mx+c | y=axn  y=U+b  x | Explore  Maths Bk3  Pg.287-290 |  |
| 6 | Graphical Methods | Empirical graphs | By the end of the lesson the learner should be able to draw and interpret empirical graphs | Learners draw empirical graphs | Graph papers | Explore  Maths Bk3  Pg.292 |  |
|  | 7 | Graphical Methods | Lines of best fit | By the end of the lesson the learner should be able to draw the line of best fit | Learners draw lines of best fit | Graph papers | Explore  Maths Bk3  Pg.293-295 |  |
| 9 | 1 | Graphical Methods | Equation of a circle centre (0,0) | By the end of the lesson the learner should be able to derive the equation of a circle centre (0,0) radius r units | Teacher/pupil discussion | Chalkboard illustrations | Explore  Maths Bk3  Pg.297 |  |
| 2 | Graphical Methods | Equation of a circle centre (a,b) radius v units | By the end of the lesson the learner should be able to derive the equation of a circle centre (a,b) radius r units | Teacher leads learners to derive (x-a)2+(y-b)2=r2 | Chalkboard illustrations | Explore  Maths Bk3  Pg.298 |  |
| 3 | Graphical Methods | Find the equation given centre and radius | By the end of the lesson the learner should be able to find the equation of a circle given the centre and radius of a circle | Learners find equations | Chalkboard illustrations | Explore  Maths Bk3  Pg.299 |  |
| 4 | Graphical Methods | Finding centre and radius given equation | By the end of the lesson the learner should be able to find the centre and radius of a circle given its equation | Learners determine centre and radius | Chalkboard illustrations | Explore  Maths Bk3  Pg.299 |  |
| 5 | Graphical Methods | Application to real life situation | By the end of the lesson the learner should be able to apply graphical methods to real life situation and solve problems | Learners solve problems | Chalkboard illustrations | Explore  Maths Bk3  Pg.300 |  |
| 6 and 7 | Graphical Methods | Problem solving | By the end of the lesson the learner should be able to solve problems on graphical methods | Learners solve problems | Past paper questions | Explore  Past paper questions |  |
| 10 |  | **TOPICAL REVISION** | | | | | |  |
| 11 |  | **END OF YEAR EXAMINATIONS** | | | | | |  |
| 12 |  | **PREPARATION OF REPORTS AND CLOSING** | | | | | |  |