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| **F Unit 1: Real-life (a) and algebraic linear graphs (b)** | | **Year 10 Road Map** | | | | |
| In this unit you will learn about algebra. The aims are as follows:  **LG1**: Knowledge **LG2**: Application **LG3**: Skills  Assessment Grades | | | | | | |
| **S/N** | **Learning Goals/Outcomes/Content** | | Video Clips | R A G |  |  |
| 1 | Use input/output diagrams; | | 36 |  |  |  |
| 2 | Use axes and coordinates to read and interpret coordinates in all four quadrants in 2D; | | 8 |  |  |  |
| 3 | Find the coordinates of points identified by geometrical information in 2D (all four quadrants); | | 113 |  |  |  |
| 4 | Find the coordinates of the midpoint of a line segment; | | 8, 133 |  |  |  |
| 5 | Draw, label and scale axes; | | A21b |  |  |  |
| 6 | Read values from straight-line graphs for real-life situations; | | A21b |  |  |  |
| 7 | Draw straight line graphs for real-life situations, including ready reckoner graphs, conversion graphs, fuel bills graphs, fixed charge and cost per unit; | | A21b |  |  |  |
| 8 | Draw distance–time graphs and velocity–time graphs; | | 143 |  |  |  |
| 9 | Work out time intervals for graph scales; | |  |  |  |  |
| 10 | Interpret distance–time graphs, and calculate: the speed of individual sections, total distance and total time; | | 143 |  |  |  |
| 11 | Interpret information presented in a range of linear and non-linear graphs; | |  |  |  |  |
| 12 | Interpret graphs with negative values on axes; | |  |  |  |  |
| 13 | Interpret gradient as the rate of change in distance–time and speed–time graphs, graphs of containers filling and emptying, and unit price graphs. | | 97 |  |  |  |
|  | | | | | | |
| 14 | Use function machines to find coordinates (i.e. given the input *x*, find the output *y*); | | 36 |  |  |  |
| 15 | Plot and draw graphs of *y* = *a*, *x* = *a*, *y* = *x* and *y* = –*x*; | |  |  |  |  |
| 16 | Recognise straight-line graphs parallel to the axes; | |  |  |  |  |
| 17 | Recognise that equations of the form *y* = *mx* + *c* correspond to straight-line graphs in the coordinate plane; | | 96 |  |  |  |
| 18 | Plot and draw graphs of straight lines of the form *y* = *mx* + *c* using a table of values; | | 96 |  |  |  |
| 19 | Sketch a graph of a linear function, using the gradient and *y*-intercept; | | 159a |  |  |  |
| 20 | Identify and interpret gradient from an equation *y* = *mx* + *c*; | | A14c |  |  |  |
| 21 | Identify parallel lines from their equations; | | 159b |  |  |  |
| 22 | Plot and draw graphs of straight lines in the form *ax* + *by* = *c*; | | 96 |  |  |  |
| 23 | Find the equation of a straight line from a graph; | | 159a |  |  |  |
| 24 | Find the equation of the line through one point with a given gradient; | | 159b |  |  |  |
| 25 | Find approximate solutions to a linear equation from a graph; | | 96 |  |  |  |
| 26 | Find the gradient of a straight line from real-life graphs too. | | 143 |  |  |  |

Student’s comments or questions