

Mathematics Applications and Interpretations.

Section 2: models

Requirements for the test.

These requirements are sufficient for the test. In order to reach grades higher than 5, the student will have to apply these knowledge and skills in unfamiliar situations.

Knowledge.

- What a function is, as well as the concepts of domain, range, input and output.
- What a linear function is, a quadratic one and an exponential function.
- What a parabole is, as well as the concept of apex (vertex).
- What is the relationship about feedback and exponential models.

Skills.

(previous) - Being able to substitute values in a formula and calculate its value.

(previous) - Being able to solve systems of two simultaneous equations.

- For any given function, calculate the domain (assuming that the domain restrictions are only of the first or second kind) and the range.
- Using a calculator to solve any equation using the table method.
- Using a calculator to find the intersection(s) between two functions.
- Graph a linear function and sketch a quadratic and an exponential one.
- Identify by its graph a linear function, a quadratic, and an exponential function.
- Tell, based on the graph, some features about the formula of a parabole (such as the sign of the value of a) and the formula of a linear function (such as the value of m).
- For any general quadratic function, calculate the points of intersection with the axis.
- Create a model for any phenomenon that behaves lineally, quadratically or exponentially.
- Analyze the model to predict the behaviour of the phenomenon.
- Using the table method to find the minimum value of the output of a function.