**CanvasPositionTranslator** is a class containing methods for translating the pixel-coordinates in a canvas to normalized world-coordinates. Also includes methods for drawing lines and geometric shapes. Methods included are:

Defines the range of values for the x-axis

* xRange(x1, x2)

Defines the range of values for the y-axis

* yRange(y1, y2)

Defines the spacing between the canvas-edge and coordinate-plot for the x-axis

* xMargin(left, right)

Defines the spacing between the canvas-edge and coordinate-plot for the y-axis

* yMargin(bottom, top)

Defines how much the coordinate-plot should be rotated relative to the canvas

* rotate(angle)

Draws lines showing the xy-positions

* drawGridlines(**showOrigin**, **showPerimeter**)

Three methods that work together to create unique shapes. drawLine must be run between drawLinestart and drawLineEnd, but can also be run several times between drawLineStart and drawLineEnd

* drawLineStart(x, y)
* drawLine(x, y, colour, width, **dotted**)
* drawLineEnd(**fill**)

Draws a line-segment from point1 to point2

* drawLineSegment(x1, y1, x2, y2, colour, width, **dotted**)

Writes text in canvas

* text(x, y, text, colour, font, angle)

**Draws shapes**

* drawSquare(x1, y1, x2, y2, colour, **fill**)
* drawCircle(x, y, xRadius, yRadius, colour, **fill**)
* drawPolygon (**xArray**, **yArray**, colour, **fill**)

**canvasGraphs** is a class-extension of **canvasPositionTranslator** containing methods for visualizing data from one or more arrays. Methods included are:

Defines the data for the x and y-axis

* dataset(graphID, **dataset1**, **dataset2**)

Draws a bar-graph for visualizing the size of n-items

* drawBarGraph(graphID, xTitle, yTitle)

Draws a pie-chart for visualizing the percentage-distribution of values

* drawPieChart(graphID)

Draws a line-graph for visualizing the trend of a dataset

* drawLineGraph(graphID, xTitle, yTitle)

Draws a coordinate system and places points using two datasets as x and y-values to show the correlation between the values. Can be used for regressional analysis

* drawScatterPlot(graphID, xTitle, yTitle)

**CartesianMethods** is a class-extension of **canvasPositionTranslator** containing numerical methods for drawing graphs of functions.

Methods included are:

Draws

* drawGraph(function, colour, quantity)

Draws the derivative of a function

* drawDerivative(function, colour, quantity)

Draws the tangent of a point on a function

* drawTangent(function, x, colour, quantity)

Draws the point that intersects a specified x-value(s) on a graph

* drawPointonGraph(function, xArray, colour, style)

**NumericalMethods** is a set of functions for simplifying javascript syntax.

Fuctions are included are:

* $(id)
* $set(attribute, id, value)
* $get(attribute, id)
* $setClick(id, action)
* $getClick(id)
* $uniqueData(**array**)
* randomNumber(min, max)
* randomColour(shade)
* randomOrder(**array**)

**NoHTML4UI** is a class containing methods for creating HTML-fields for input and output, with javascript. Methods included are:

* text(**inputIdArray**)
* list(**inputIdArray**, **dropdownValueArray**)
* checkbox(**inputIdArray**)
* output(text, empty)
* removeInput(**inputIdArray**)