4.13 Non-linear regression

4.13.1 Quadratic regression

To compute the quadratic regression of a set of data, proceed as in **_Line of best fit_** section, but replace **Linear Regression (a+bx)** by **Quadratic Regression**. The regression curve is in the form $ax^2 + bx + c$ (as displayed at the top of the screen).

To graph the quadratic regression function, proceed as in **_Line of best fit_** section.

4.13.2 Cubic regression

To compute the cubic regression of a set of data, proceed as in **_Line of best fit_** section, but replace **Linear Regression (a+bx)** by **Cubic Regression**. The regression curve is in the form $ax^3 + bx^2 + cx + d$ (as displayed at the top of the screen).

To graph the cubic regression function, proceed as in **_Line of best fit_** section.

4.13.3 Exponential regression

To compute the exponential regression of a set of data, proceed as in **_Line of best fit_** section, but replace **Linear Regression (a+bx)** by **Exponential Regression**. The regression curve is in the form $a \times b^x$ (as displayed at the top of the screen).

To graph the exponential regression function, proceed as in **_Line of best fit_** section.

4.13.4 Power regression

To compute the power regression of a set of data, proceed as in **_Line of best fit_** section, but replace **Linear Regression (a+bx)** by **Power Regression**. The regression curve is in the form $a \times x^b$ (as displayed at the top of the screen).

To graph the power regression function, proceed as in **_Line of best fit_** section.

4.13.5 Sine regression

To compute the sine regression of a set of data, proceed as in **_Line of best fit_** section, but replace **Linear Regression (a+bx)** by **Sinusoidal Regression**. The default **Iterations** is 8, and can be changed up to 16 (the higher the more precise, but also the slower). The **Period** should be

given in the question. The regression curve is in the form $a \times \sin(bx + c) + d$ (as displayed at the top of the screen).

To graph the power regression function, proceed as in **_Line of best fit_** section.