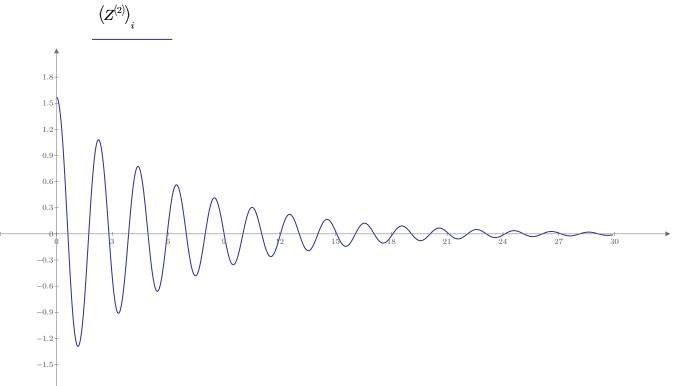
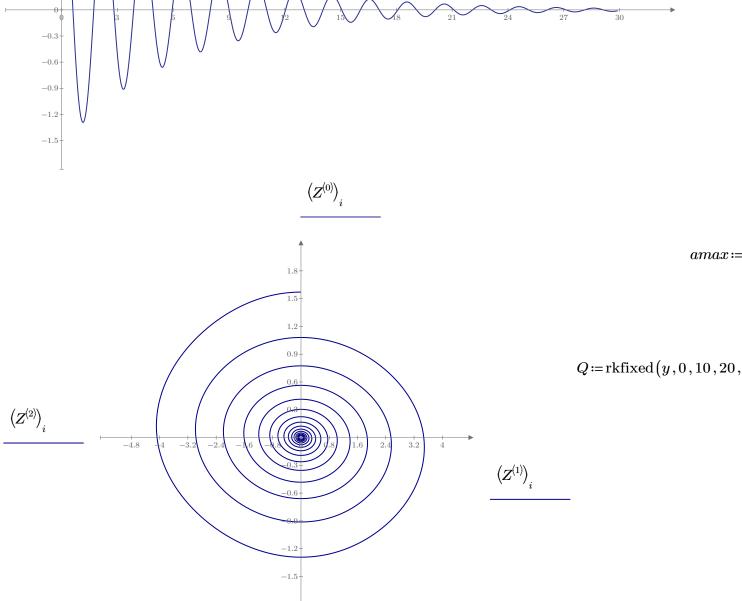
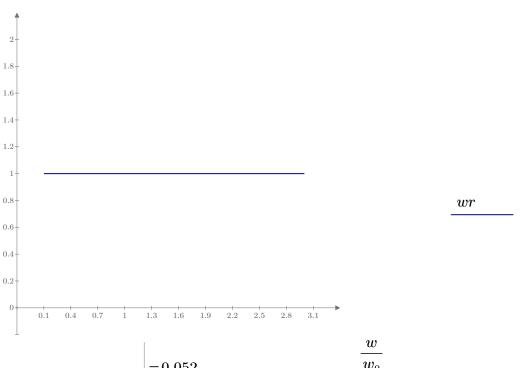
$$\begin{array}{lll} m\coloneqq 1 & & & & & & & \\ l\coloneqq 1 & & v_0\coloneqq 2\boldsymbol{\cdot}\sqrt{g\boldsymbol{\cdot}l} & & \varphi_0\coloneqq \frac{\pi}{2} & & a\coloneqq l & k\coloneqq 0.5 & & & v_0\coloneqq 0 & & y\coloneqq \begin{bmatrix} v_0\\ \varphi_0 \end{bmatrix} & & w_0\coloneqq \sqrt{\frac{g}{l}} & & w_0\vDash \sqrt{\frac{g}{l}} & & w_0\coloneqq \sqrt{\frac{g}{l}} & & w_0\vDash \sqrt{\frac{g}{l}} & & w_0\coloneqq \sqrt{\frac{g}{l}} & & w_0\coloneqq \sqrt{\frac{g}{l}} & & w_0\vDash \sqrt{\frac{g}{l}} & & w_0\coloneqq \sqrt{\frac{g}{l}} & & w_0\vDash \sqrt{\frac{g}{l}} & & w_0\vDash \sqrt{\frac{g}{l}} & & w_0\vDash \sqrt{\frac{g}{l}} & & w_0\vDash \sqrt{\frac{g}{l}}$$

$$D(t,y) \coloneqq \begin{bmatrix} -w_0^2 \cdot y_1 \cdot 0 - 1 \cdot w_0^2 \cdot \sin\left(y_1\right) - k \cdot y_0 + a \cdot \sin\left(w_1 \cdot t\right) \\ y_0 \end{bmatrix} \qquad Z \coloneqq \operatorname{rkfixed}\left(y,0,29.9,2000,D\right) \qquad Z = 0$$







$$\begin{vmatrix} w_0 \leftarrow \sqrt{\frac{g}{l}} \\ h \leftarrow 0.025 \\ d \leftarrow 0.1 \\ w \leftarrow w_0 \cdot 0.1 \end{vmatrix}$$

$$\begin{vmatrix} w - \frac{\pi}{24} \\ phi \leftarrow 0 \\ i \leftarrow 0 \\ m \leftarrow l \cdot \sin(phi) \\ while i < n \end{vmatrix}$$

$$\begin{vmatrix} t \leftarrow h \cdot (a \cdot \sin(w \cdot i \cdot h) - w_0^2 \cdot \sin(phi)) \\ phi \leftarrow phi + h \cdot v \\ v \leftarrow v + t \\ i \leftarrow i + 1 \\ if (l \cdot \sin(phi) > m) \\ m \end{vmatrix}$$

$$k = 0.052$$

$$\begin{vmatrix} w \\ w_0 \\ \hline w_0 \\ \hline w = 0.025 \\ \hline m := 2000$$

$$R(t, y) := \begin{bmatrix} -\frac{g}{l} \cdot y_1 \cdot 0 - 1 \cdot w_0 \cdot \sin(y_1) - k \cdot y_0 + a \cdot \sin(w_0 \cdot t) \\ y_0 \\ \hline m \cdot \sqrt{(w_0^2 - w_j^2)^2 + 4b_i^2 \cdot w_j^2} \\ \hline t := 0,0.1..40 = \begin{bmatrix} 0 \\ \vdots \end{bmatrix}$$

$$t := 0,0.1..40 = \begin{bmatrix} 0 \\ \vdots \end{bmatrix}$$

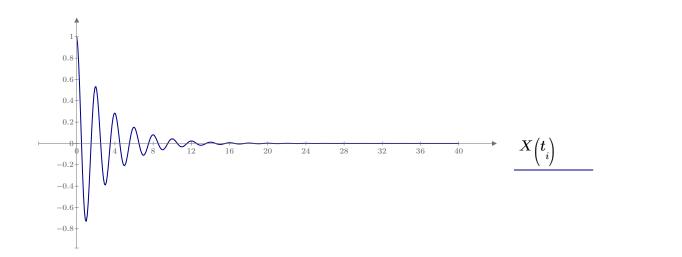
$$m := 1$$

$$d := 0.1$$

$$w_0 := \sqrt{\frac{g}{l}}$$

$$w_0 := w_0$$

$$f := 0$$



 $b \coloneqq d \cdot w0$

 $A0 \coloneqq l$

 $X(t) := A0 \cdot e^{-b \cdot t} \cdot \cos(w \cdot t + f)$

$$n = 1000$$

$$z(t) = 3 \cdot \frac{t}{m}$$

$$z(k) = \begin{bmatrix} 0 \\ 0.003 \\ 0.006 \\ \vdots \end{bmatrix}$$

$$wightharpoonup work = \begin{bmatrix} 0 \\ 0.009 \\ 0.019 \\ \vdots \end{bmatrix}$$

$$\underline{d} := 0, 0.01..10 = \begin{bmatrix} 0 \\ \vdots \end{bmatrix}$$
 $\underline{b} := w0 \cdot d$

$$A_{1} \coloneqq \left\| \begin{matrix} j \leftarrow 0 \\ \text{while } j \leq 320 \\ \left\| \left(A \right)_{j} \leftarrow \frac{A0}{m \cdot \sqrt{\left(w0^{2} - w1_{j}^{2} \right)^{2} + 4 \ b1_{0}^{2} \cdot w1_{j}^{2}}} \right\| A_{2} \coloneqq \left\| \begin{matrix} j \leftarrow 0 \\ \text{while } j \leq n \end{matrix} \right\| \left(A \right)_{j} \leftarrow \frac{A0}{m \cdot \sqrt{\left(w0^{2} - w2_{j}^{2} \right)^{2} + 4 \ b2_{0}^{2} \cdot w2_{j}^{2}}} \right\| \left\| j \leftarrow j + 1 \right\| A_{2} = \left\| \begin{matrix} j \leftarrow 0 \\ \left\| A \right\| \left(A \right)_{j} \leftarrow \frac{A0}{m \cdot \sqrt{\left(w0^{2} - w2_{j}^{2} \right)^{2} + 4 \ b2_{0}^{2} \cdot w2_{j}^{2}}} \right\| A_{2} = \left\| \begin{matrix} A_{2} \leftarrow 0 \\ \left\| A \right\| \left(A \right)_{j} \leftarrow \frac{A0}{m \cdot \sqrt{\left(w0^{2} - w2_{j}^{2} \right)^{2} + 4 \ b2_{0}^{2} \cdot w2_{j}^{2}}} \right\| A_{2} = \left\| \begin{matrix} A_{2} \leftarrow 0 \\ \left\| A \right\| \left(A \right)_{j} \leftarrow \frac{A0}{m \cdot \sqrt{\left(w0^{2} - w2_{j}^{2} \right)^{2} + 4 \ b2_{0}^{2} \cdot w2_{j}^{2}}} \right\| A_{2} = \left\| \begin{matrix} A_{2} \leftarrow 0 \\ \left\| A \right\| \left(A \right)_{j} \leftarrow \frac{A0}{m \cdot \sqrt{\left(w0^{2} - w2_{j}^{2} \right)^{2} + 4 \ b2_{0}^{2} \cdot w2_{j}^{2}}} \right\| A_{2} = \left\| \begin{matrix} A_{2} \leftarrow 0 \\ \left\| A \right\| \left(A \right)_{j} \leftarrow \frac{A0}{m \cdot \sqrt{\left(w0^{2} - w2_{j}^{2} \right)^{2} + 4 \ b2_{0}^{2} \cdot w2_{j}^{2}}} \right\| A_{2} = \left\| \begin{matrix} A_{2} \leftarrow 0 \\ \left\| A \right\| \left(A \right)_{j} \leftarrow \frac{A0}{m \cdot \sqrt{\left(w0^{2} - w2_{j}^{2} \right)^{2} + 4 \ b2_{0}^{2} \cdot w2_{j}^{2}}} \right\| A_{2} = \left\| \begin{matrix} A_{2} \leftarrow 0 \\ \left\| A \right\| \left(A \right)_{j} \leftarrow \frac{A0}{m \cdot \sqrt{\left(w0^{2} - w2_{j}^{2} \right)^{2} + 4 \ b2_{0}^{2} \cdot w2_{j}^{2}}} \right\| A_{2} = \left\| \begin{matrix} A_{2} \leftarrow 0 \\ \left\| A \right\| \left(A \right)_{j} \leftarrow \frac{A0}{m \cdot \sqrt{\left(w0^{2} - w2_{j}^{2} \right)^{2} + 4 \ b2_{0}^{2} \cdot w2_{j}^{2}}} \right\| A_{2} = \left\| \begin{matrix} A_{2} \leftarrow 0 \\ \left\| A \right\| \left(A \right)_{j} \leftarrow \frac{A0}{m \cdot \sqrt{\left(w0^{2} - w2_{j}^{2} \right)^{2} + 4 \ b2_{0}^{2} \cdot w2_{j}^{2}}} \right\| A_{2} = \left\| \begin{matrix} A_{2} \leftarrow 0 \\ \left\| A \right\| \left(A \right)_{j} \leftarrow \frac{A0}{m \cdot \sqrt{\left(w0^{2} - w2_{j}^{2} \right)^{2} + 4 \ b2_{0}^{2} \cdot w2_{j}^{2}}} \right\| A_{2} = \left\| \begin{matrix} A_{2} \leftarrow 0 \\ \left\| A \right\| \left(A \right)_{j} \leftarrow \frac{A0}{m \cdot \sqrt{\left(w0^{2} - w2_{j}^{2} \right)^{2} + 4 \ b2_{0}^{2} \cdot w2_{j}^{2}}} \right\| A_{2} = \left\| \begin{matrix} A_{2} \leftarrow 0 \\ \left\| A \right\| \left(A \right)_{j} \leftarrow \frac{A0}{m \cdot \sqrt{\left(w0^{2} - w2_{j}^{2} \right)^{2} + 4 \ b2_{0}^{2} \cdot w2_{j}^{2}}} \right\| A_{2} = \left\| \begin{matrix} A_{2} \leftarrow 0 \\ \left\| A \right\| \left(A \right)_{j} \leftarrow \frac{A0}{m \cdot \sqrt{\left(w0^{2} - w2_{j}^{2} \right)^{2} + 4 \ b2_{0}^{2} \cdot w2_{j}^{2}}} \right\| A_{2} = \left\| \begin{matrix} A_{2} \leftarrow 0 \\ \left\| A \right\| \left(A \right)_{j} \leftarrow \frac{A0}{m \cdot \sqrt{\left(w0^{2} - w2_{j}^{2} \right)^{2} + 4 \ b2_{0}^{2} \cdot w2_{j}^{2}}} \right\| A_{2} = \left\| \begin{matrix} A_{2} \leftarrow 0 \\ \left\|$$

$$A_5 \coloneqq egin{array}{c} j \leftarrow 0 & \text{while } j \leq n & \\ \left\| \left(A \right)_j \leftarrow & \frac{A0}{m \cdot \sqrt{\left(w0^2 - w_j^{\ 2} \right)^2 + 4 \ b_{15}^{\ 2} \cdot w_j^{\ 2}}} \right\| \\ \left\| j \leftarrow j + 1 & \\ A & \end{array} \right\|$$

$$A_9 \coloneqq \left\| \begin{array}{l} j \leftarrow 0 \\ \text{while } j \leq n \\ \left\| \left(A \right)_j \leftarrow \frac{A0}{m \cdot \sqrt{\left(w0^2 - w_j^{\ 2} \right)^2 + 4 \ b_{50}^{\ 2} \cdot w_j^{\ 2}}} \right\| \\ \left\| j \leftarrow j + 1 \end{array} \right\| A_{10} \coloneqq \left\| \begin{array}{l} j \leftarrow 0 \\ \text{while } j \leq n \\ \left\| \left(A \right)_j \leftarrow \frac{A0}{m \cdot \sqrt{\left(w0^2 - w_j^{\ 2} \right)^2 + 4 \ b_{100}^{\ 2} \cdot w_j^{\ 2}}} \right\| \\ \left\| j \leftarrow j + 1 \end{array} \right\|$$

k1 = 0, s

d1 =

b1

$$2 \coloneqq \begin{vmatrix} j \leftarrow 0 \\ \text{while } j \le n \end{vmatrix}$$

$$\begin{vmatrix} (A)_j \leftarrow \frac{A0}{m \cdot \sqrt{\left(w0^2 - w2_j^2\right)^2 + 4 \ b2_0^2 \cdot w2_j^2}}$$

$$|j \leftarrow j + 1$$

$$A_{5} \coloneqq \left\| \begin{array}{l} j \leftarrow 0 \\ \text{while } j \leq n \\ \left\| \left(A \right)_{j} \leftarrow \frac{A0}{m \cdot \sqrt{\left(w0^{2} - w_{j}^{2} \right)^{2} + 4 \ b_{15}^{-2} \cdot w_{j}^{2}}} \right\| A_{6} \coloneqq \left\| \begin{array}{l} j \leftarrow 0 \\ \text{while } j \leq n \\ \left\| \left(A \right)_{j} \leftarrow \frac{A0}{m \cdot \sqrt{\left(w0^{2} - w_{j}^{-2} \right)^{2} + 4 \ b_{20}^{-2} \cdot w_{j}^{-2}}} \right\| A_{6} \right\| A_{6} \coloneqq \left\| \begin{array}{l} j \leftarrow 0 \\ \left\| \left(A \right)_{j} \leftarrow \frac{A0}{m \cdot \sqrt{\left(w0^{2} - w_{j}^{-2} \right)^{2} + 4 \ b_{20}^{-2} \cdot w_{j}^{-2}}} \right\| A_{6} \right\| A_{6} = \left\| \begin{array}{l} j \leftarrow 0 \\ \left\| \left(A \right)_{j} \leftarrow \frac{A0}{m \cdot \sqrt{\left(w0^{2} - w_{j}^{-2} \right)^{2} + 4 \ b_{20}^{-2} \cdot w_{j}^{-2}}} \right\| A_{6} = \left\| \begin{array}{l} A_{6} = \left\| \begin{array}{l} j \leftarrow 0 \\ \left\| \left(A \right)_{j} \leftarrow \frac{A0}{m \cdot \sqrt{\left(w0^{2} - w_{j}^{-2} \right)^{2} + 4 \ b_{20}^{-2} \cdot w_{j}^{-2}}} \right\| A_{6} = \left\| \begin{array}{l} A_{6} = \left\| \begin{array}{l} j \leftarrow 0 \\ \left\| \left(A \right)_{j} \leftarrow \frac{A0}{m \cdot \sqrt{\left(w0^{2} - w_{j}^{-2} \right)^{2} + 4 \ b_{20}^{-2} \cdot w_{j}^{-2}}} \right\| A_{6} = \left\| \begin{array}{l} A_{6} = \left\| \begin{array}{l} j \leftarrow 0 \\ \left\| \left(A \right)_{j} \leftarrow \frac{A0}{m \cdot \sqrt{\left(w0^{2} - w_{j}^{-2} \right)^{2} + 4 \ b_{20}^{-2} \cdot w_{j}^{-2}}} \right\| A_{6} = \left\| \begin{array}{l} A_{6} = \left\| \begin{array}{l} A_{6} = \left\| \left(A \right)_{j} \leftarrow A_{6} \right\| A_{6} = \left\| \left(A \right)_{j} \leftarrow A_{6} \right\| A_{6} = \left\| \left(A \right)_{j} \leftarrow A_{6} = \left| A \right\rangle_{j} \right\| A_{6} = \left\| \left($$

$$A_{10} \coloneqq egin{array}{c} j \leftarrow 0 \ ext{while } j \leq n \ & \left(A\right)_{j} \leftarrow rac{A0}{m \cdot \sqrt{\left(w0^{2} - w_{j}^{2}
ight)^{2} + 4 \left|b_{100}^{2}\right|^{2} \cdot w_{j}^{2}}} \ & j \leftarrow j + 1 \end{array}$$

