

# LaTeX example questions

Michael Manansala

October 18, 2018

## 1 Questions

1. Solve the following for  $x$ :

$$(x - 3)^2 + 4x = 3x^2 + 7$$

2. Find the product of the following matrices A and B:

$$A = \begin{pmatrix} 3 & 4 & 2 \\ 1 & -1 & 0 \end{pmatrix} B = \begin{pmatrix} 2 & -1 \\ 4 & 0 \\ 6 & -2 \end{pmatrix}$$

3. It is given that:

$$\frac{dx}{dt} = 10 - 4x$$

Find an expression for  $x(t)$  and plot the value for  $0 \leq t \leq 5$  if  $x(0) = 1$ .

4. Write a function to calculate the  $n$ th Fibonacci Number using the programming language of your choice.