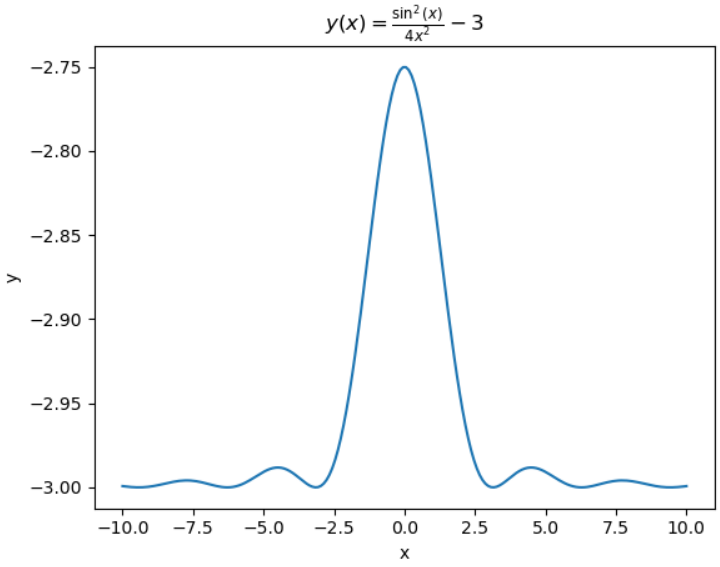
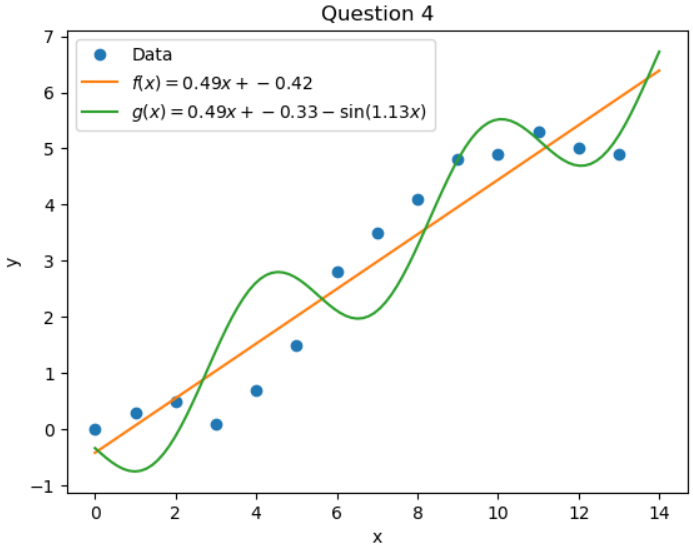
MAS2806-PHY2039 Assessment 1 plotting mark scheme

Question 1 or 2 (depending on randomisation)



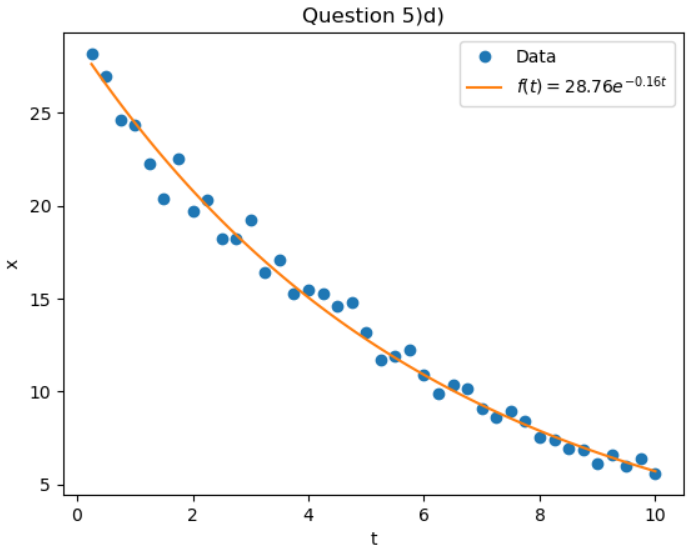
- Maximum mark: 8.
- 4 marks for graph of a similar function to that in the model solution. If graph is not sufficiently smooth (e.g. it appears jagged) deduct 1 mark.
- 2 marks for reasonable ranges of variables. E.g. if y is too big to fully display behaviour of the function deduct 1 mark.
- 1 mark for x, y labels on axes.
- 1 mark for appropriate labelling of function in plot title, legend, or equivalent. The label does not have to be typeset in LaTeX(as on the left) e.g. `sin^2(x)/(4x^2) - 3` is sufficient.

Question 4



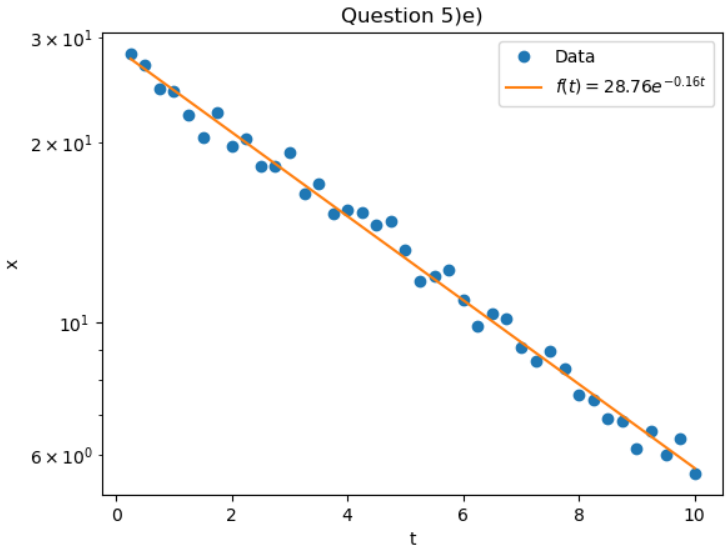
- Maximum mark: 8.
- 1 mark for data plotted as points.
- 1 mark for a line of best fit (orange on left).
- 2 marks for a fitted function reasonably similar to the green curve on the left. Deduct 1 mark is the curve is not sufficiently smooth.
- 2 marks for reasonable ranges of variables and labels on axes.
- 2 marks for appropriate labelling of functions in a legend. The labels do not have to be typeset in LaTeX(as on the left) e.g. `a*x+b` is sufficient. Deduct 1 mark if a function is missing, deduct 2 marks if two are missing.

Question 5 part d



- Maximum mark: 10.
- 1 mark for data plotted as points.
- 4 marks for a fitted function reasonably similar to the orange curve on the left. Deduct 1 mark if the curve is not sufficiently smooth. Deduct 1 mark if the curve appears to be a straight line.
- 1 mark for linear axes e.g. clear from axis labels that scale is linear.
- 2 marks for reasonable ranges of variables and labels on axes.
- 2 marks for appropriate labelling of functions in a legend. The labels do not have to be typeset in LaTeX(as on the left) e.g. `ae^(bt)` is sufficient. Deduct 1 mark if a function is missing, deduct 2 marks if two are missing.

Question 5 part e



- Maximum mark: 10.
- 1 mark for data plotted as points.
- 4 marks for a fitted function reasonably similar to the orange line on the left. Deduct 1 mark if the line does not appear to be a straight.
- 1 mark for semilogarithmic axes e.g. clear from axis labels that dependent variable is on a logarithmic scale.
- 2 marks for reasonable ranges of variables and labels on axes.
- 2 marks for appropriate labelling of functions in a legend. The labels do not have to be typeset in LaTeX(as on the left) e.g. `ae^(bt)` is sufficient. Deduct 1 mark if a function is missing, deduct 2 marks if two are missing.