Final Exam

Please show all your work for credits. No credit for guessing.

The exam will consist of two parts: Part 1: Manual calculation and Part 2: Excel calculation. Submit your answers for Part 1 to receive the problem for Part 2.

Part 2. Excel Calculation.

Problem 1

Year	Population (000s)
2012	3.1
2013	3.5
2014	4.2
2015	5.3
2016	6.2

1. Model the dataset using exponential model and calculate the MAPE of the model.
2. Model the dataset using linear model and calculate the MAPE of the model.
3. Compare the models in term of MAPE to decide the better model. Use the better model to predict the population in 2017.

Problem 2

A workshop produces chairs and tables. Profit per chair = \$30 Profit per table = \$50 Each chair requires 4 hours of woodworking and 2 hours of finishing. Each table requires 3 hours of woodworking and 5 hours of finishing. The workshop has a maximum of 36 woodworking hours and 30 finishing hours available per week. How many chairs and tables should the workshop produce each week to maximize profit?