## MATH3202/7232 Operations Research & Mathematical Planning 2020

## Week 2 - Giapetto's Woodcarving

Giapetto's Woodcarving manufactures toy trains and toy soldiers. A soldier uses \$10 worth of raw materials and \$14 worth of labour and sells for \$27. A train uses \$9 worth of raw materials and \$10 worth of labour and sells for \$21. A soldier needs 2 hours finishing and 1 hour of carpentry. A train needs 1 hour of finishing and 1 hour of carpentry. Giapetto can obtain all the raw materials it needs but only has 100 hours of finishing and 80 hours of carpentry per week. They can sell any number of trains each week, but at most 40 toy soldiers.

How many of each kind of toy should be produced per week to maximise revenue?