

Operations Research

Homework 1

Due via Moodle on Tuesday, September 8, 2020

1. Minimize

$$z = 8x + 12y$$

subject to

$$5x + 2y \geq 20,$$

$$4x + 3y \geq 24,$$

$$y \geq 2,$$

$$x, y \geq 0.$$

2. A sum of \$12 000 is to be invested. At least half the amount will go into an investment earning 6% annual interest, but involving some risk. Thus, the amount in the risky investment may not be more than three times the amount in a second, relatively riskless investment earning 5% annual interest. How much should be invested into each in order to maximize interest?