

Math 115 — Finite Mathematics**Past Questions 4**

Time: 90 minutes

Total: 100 marks

No calculators

Name: _____

Student ID: _____

Sections 1.1–1.2, 4.1–4.3, 5.1–5.3. Answer all questions and show all your work. Calculators and mobile phones are not allowed.

The complete First Exam of Spring 2021/2022, reordered to the current exam format.

Written Questions — 100 marks**Question 1 [15 marks]**

Solve and graph:

$$-7(x-2) \leq 2(x+5) + 35$$

Question 2 [10 marks]

If a cardboard box has length L , width W , and height H , then its surface area is given by the formula $S = 2LW + 2LH + 2HW$. Solve the formula for L in terms of S , W , and H .

Question 3 [15 marks]

Let L be the line defined by the equation $y = mx + b$. Find m and b if the line L passes through the point $(2, 6)$ and intersects the x -axis at $x = 4$.

Question 4 [20 marks]

Solve by Gauss-Jordan elimination the following system:

$$3x + 2y - 5z = 4$$

$$x - y - 3z = 3$$

$$4x + y - 8z = 11$$

Question 5 [10 marks]

Solve the following system of linear inequalities graphically:

$$x + 2y < 8$$

$$2x - y \geq 4$$

Question 6 [15 marks]

Minimize and Maximize the objective function: $P = 5x + 4y$, subject to

$$4x + 5y \leq 33$$

$$-2x + y \leq 1$$

$$x + 3y \geq 10$$

Question 7 [15 marks]

A company that rents small moving trucks wants to purchase 18 trucks with a combined capacity of 19,200 cubic feet. Three different types of trucks are available: a small size truck with a capacity of 300 cubic feet, a medium size truck with a capacity of 600 cubic feet, and a big size truck with a capacity of 1,200 cubic feet. How many of each type of truck should the company purchase?

End of paper

تم إعداد هذا النموذج من منصة مُرشد،
للاشتراك في مادة Finite 115 تواصل معنا على رقم المنصة: 41110098