

Math 115 — Finite Mathematics**Past Questions 2**

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.

Practice paper compiled from past examination questions (2016–2024), in the current exam format.

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

Solve and graph on real number line the following compound inequality.

$$\frac{-3}{2} \leq \frac{1}{4} \left(\frac{1}{2}x - 1 \right) + \frac{3}{4} < \frac{3}{2}$$

Question 2 [10 marks]

Ali invested 12,000 KD in building a restaurant in Kuwait city. The preparation of each meal costs him 3 KD (which includes the ingredients, the labor, the packaging and the delivery).

(i) How many meals should Ali sell in order to recover the initial amount he invested in the building if he sells each meal for 5 KD.

(ii) If he sells 100 meals per day, how many days needed to recover the initial amount he invested in the building.

Question 3 [15 marks]

Find an equation of the line passing through the point $(1, 2)$ and intersecting the y -axis at $y=3$.

Question 4 [20 marks]

Solve by Gauss-Jordan elimination the following system:

$$x + y + z = 1$$

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

$$5x + 4y = 7$$

Question 5 [10 marks]

Solve the following system of linear inequalities graphically and indicate whether each solution region is bounded or unbounded. Find the co-ordinate of each corner point.

$$x + 4y \leq 32$$

$$3x + y \leq 30$$

$$4x + 5y \geq 40$$

Question 6 [15 marks]

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

$$3x + 2y \geq 6$$

$$x \geq 0$$

$$y \geq 0$$

Question 7 [15 marks]

A dietitian is to arrange a special diet composed of three basic foods. The diet is to include exactly 340 units of calcium, 180 units of iron and 220 units of vitamin A. The number of units per ounce of each special ingredient for each of the foods is indicated in the table

	Food A	Food B	Food C
Calcium	30	10	20
Iron	10	10	20
Vitamin A	10	30	20

How many ounces of each food must be used to meet the diet requirements?

End of paper

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