

TEST 1

NAME	
DURATION	1 HOUR 30 MINUTES

INSTRUCTIONS TO CANDIDATE:

1. Fill in the above particulars clearly.
2. Write your student ID and the question number at the top of every answer sheet.
3. There are **THREE (3)** questions. Answer **ALL** questions.

Write your answers in the spaces provided. All calculations and assumptions must be clearly stated.

TEST REQUIREMENTS:

1. Scientific calculator

Question number	FOR EXAMINER USE ONLY
	Mark
1	
2	
3	
Total marks	/40

DO NOT TURN THIS PAGE UNTIL YOU ARE TOLD TO DO SO

This test paper consists of **SIX (6)** printed pages including front page.



Mathematics for Management
by Nor Alisa Mohd Damanhuri
<http://ocw.ump.edu.my/course/view.php?id=440>

1. If $f(x) = 1 - 2x$ and $g(x) = 3x^2$, find the following

(a) $(g - f)(x)$

(2 Marks)

(b) $(f \cdot g)(2)$

(4 Marks)

(c) $(f \circ g)(5)$

(4 Marks)

(d) $(f \circ f)\left(\frac{1}{2}\right)$

(4 Marks)

(e) Domain of $g(x)$

(1 Mark)

(f) $g(-3)$

(2 Mark)

(g) $g^{-1}(3)$

(4 Marks)

2. Given a system of linear equation,

$$-x + z = 1$$

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

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

(a) Write the system of linear equation in term of $[\mathbf{A}][x] = [\mathbf{B}]$

(1 Marks)

(b) Find determinant of matrix A

(2 Marks)



Mathematics for Management
by Nor Alisa Mohd Damanhuri

<http://ocw.ump.edu.my/course/view.php?id=440>

(c) Find *adjoint A*

(2 Marks)

(d) Find \mathbf{A}^{-1}

(2 Marks)



Mathematics for Management
by Nor Alisa Mohd Damanhuri
<http://ocw.ump.edu.my/course/view.php?id=440>

(e) Solve for x , y and z .

(4 Marks)

3. Solve the inequalities below and write your answer in interval notation and sketch the solution on the number line.

(a) $-2|2x+3|+14 \geq -16$

(5 Marks)

(b) $\frac{3(x-1)}{2} < x-2$

(3 Marks)

END OF QUESTION PAPER



Mathematics for Management
by Nor Alisa Mohd Damanhuri
<http://ocw.ump.edu.my/course/view.php?id=440>

Appendix – Table of Formulas

1. Inequalities

$$|x| < d \qquad -d < x < d$$

$$|x| \leq d \qquad -d \leq x \leq d$$

$$|x| > d \qquad x < -d \text{ or } x > d$$

$$|x| \geq d \qquad x \leq -d \text{ or } x \geq d$$

2. Inverse

$$A^{-1} = \frac{1}{|A|} (\text{adjoint } A)$$

