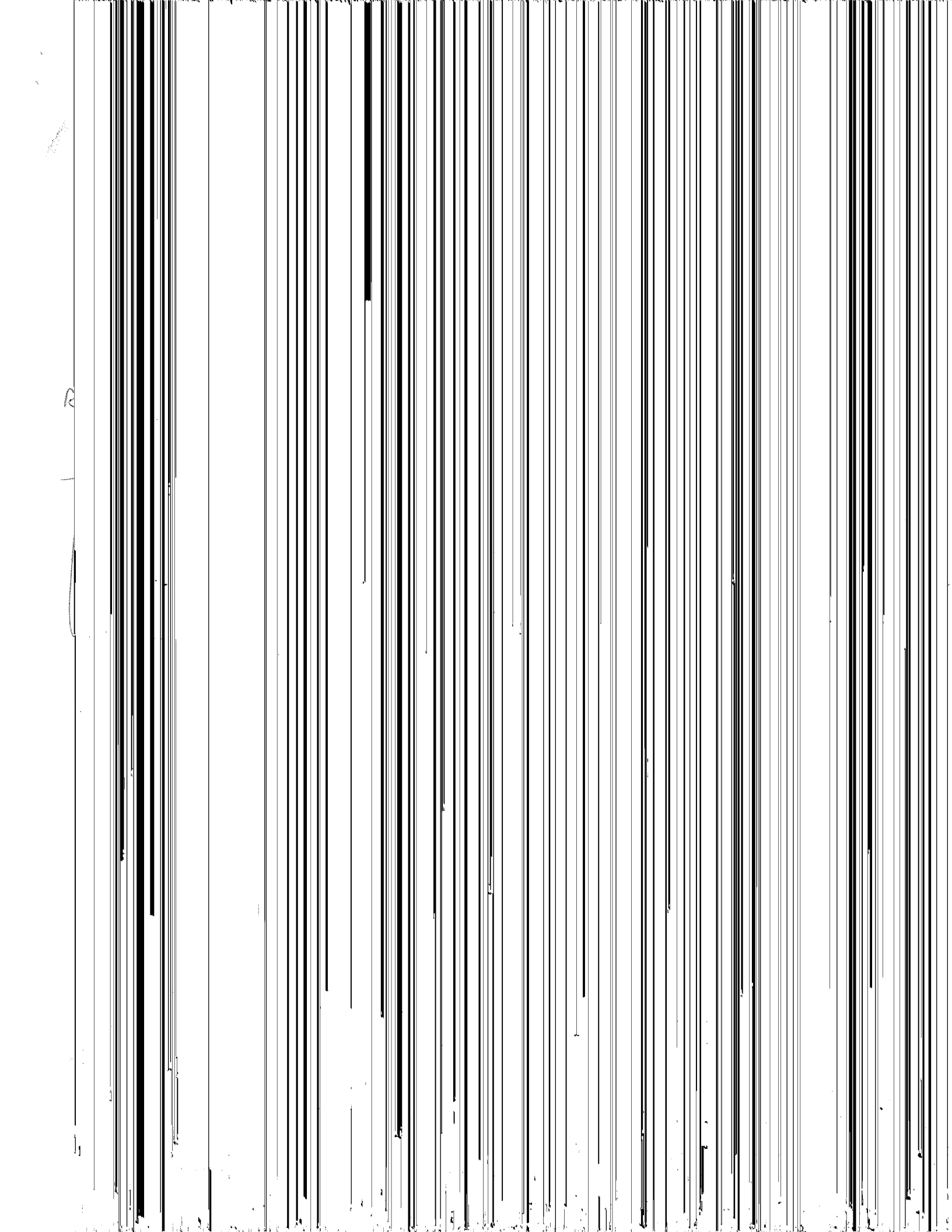


20
W
E
M
T



Proble

a)(3 marks)

$$\left[\begin{array}{ccc|cc} 5 & 3 & 0 & 1 & 0 \\ 3 & 2 & 1 & 0 & 1 \\ 0 & 0 & 1 & 0 & 0 \end{array} \right]$$

$$5R_1 \rightarrow \left[\begin{array}{ccc|cc} 1 & \frac{3}{5} & 0 & \frac{1}{5} & 0 \\ 0 & 1 & 1 & 0 & 1 \\ 0 & 0 & 1 & 0 & 0 \end{array} \right]$$

$$\rightarrow R_2 - 5R_3 \left[\begin{array}{ccc|cc} 1 & 0 & 0 & 0 & 1 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 0 & 0 \end{array} \right]$$

b)(3 marks)

Using The

$E_6 E_5 E_4$

$$\rightarrow A = E_1$$

$$= \begin{bmatrix} 5 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 1 \end{bmatrix}$$

Problem 3. (5 p)

where $C = \begin{pmatrix} 7 & -1 \\ 6 & -1 \end{pmatrix}$

$$(3A^T - I)$$

$$= \begin{bmatrix} 7 & -1 \\ 6 & -1 \end{bmatrix}$$

$$\rightarrow 3A^T =$$

$$\rightarrow A^T =$$

$$\rightarrow A = \begin{bmatrix} & \\ & \end{bmatrix}$$

Pro
integer

(I)

Prob.
invertible

IF $AB = I$

$\rightarrow B$ is

$$|A| = 1$$

$$|A_1| =$$

$$|A_2|$$

de

ae

det

Set

R

Problem 9.

a) (5 marks) Find

$$2x - 3y + z = 1.$$

$$L \cap \pi : 20$$

$$\rightarrow \pi$$

$$\rightarrow 10$$

$$Q = \left(1 + \frac{4}{7}\right)$$

b) (5 marks) Find

$$L_1 : \begin{pmatrix} x \\ y \\ z \end{pmatrix}$$

$$\vec{n} = (1, 1, 1) \times$$

$$= (-2, 1, 1)$$

$$\vec{PQ} = (0, 0, 1)$$

$$d = \frac{|\text{Proj}_{\vec{n}} \vec{PQ}|}{|\vec{n}|}$$

P

Find a
equati

7

5

Problem 1

in \mathbb{R}^4 evaluate

a) $\text{proj}_u(v +$

$\text{proj}_u(v + u$

b) $\|u\|^2 + \|v$

$= 14$

$= 6$

c) $u \times v - u \cdot w$

↑
VECTOR

↑
SC

TA

MOREOVER

d) the angle θ between

$$\theta = \arccos\left(\frac{u \cdot v}{|u||v|}\right)$$

$$= \arccos\left(\frac{u \cdot v}{|u||v|}\right)$$

Problem

as its edges. I

$$J = \text{Volume} = \int$$

$$= a^2$$

$$\rightarrow a^2 + a - 4$$

\rightarrow

Problem

Span{u, v, w}

$$\supseteq: u, u+v$$

$$\subseteq: v = au +$$

$$w = au.$$

Prob
 2×2 .
a) (5 n

form a

$$aA_1 +$$

$$\rightarrow \begin{cases} 2 \\ 2 \\ a \end{cases}$$

$$\begin{array}{c} 2 \\ 0 \\ 1 \end{array}$$

b) (2 m
a).

$$\begin{cases} 2a + b \\ 2c = \\ a + 2b \end{cases}$$

\rightarrow

$$S = \{A_1, A_2, A_3\}$$

Prob

Find the

S BASIS

$$= K \begin{matrix} 11 \\ 1K \end{matrix}$$

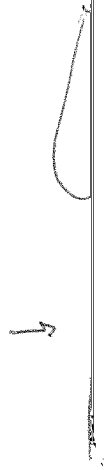
$$= K^2_3$$

Prob
and the s

Find the

AXIOM 1

AXIOM



pr
de

a v

FA