Matrix Algebra
Lesson 2

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Problem 2.1

a

$$A^{-1} = \begin{bmatrix} .333 & -.333 & .333 \\ -.333 & .333 & .666 \\ .333 & .666 & -.666 \end{bmatrix}$$

b

$$x = \begin{bmatrix} .666 \\ .333 \\ -.333 \end{bmatrix}$$

Problem 2.2

a

2

b

3

c

2

d

2

e

2

f

2

Problem 2.3

a

$$A^{-1} = \begin{bmatrix} 0 & -.333 \\ .125 & .583 \\ .125 & .0833 \end{bmatrix}$$

b

$$x = \begin{bmatrix} 0 \\ 0 \\ 0 \end{bmatrix}$$

c

$$x = \begin{bmatrix} 0 \\ .125 \\ .125 \end{bmatrix}$$

d

$$x = \begin{bmatrix} 0 \\ .125 \\ .125 \end{bmatrix}$$

Problem 2.4

a

$det(A) = -1$

b

Yes

c

$r(A) = 3$

d

$det(A^t) = -1$