

PART 1
Matrix

Write the definition of each of the following words. Use your book, CH 4.

Scalar

Identity Matrix

Inverse Matrix

Augmented Matrix

PART 2 Basic Matrix Operations.

Dimensions of a Matrix Read the top of p. 199, about how to give the dimensions of a matrix.
Give the dimensions of each of the following matrices:

1. $\begin{bmatrix} 2 & -5 & 7 \\ 6 & 3 & -9 \end{bmatrix}$

2. $\begin{bmatrix} 1 & -3 & 5 & 2 \end{bmatrix}$

3. $\begin{bmatrix} 3 & x \\ 5 & y \end{bmatrix}$

4. $\begin{bmatrix} 7 & 2 \\ 1 & -1 \\ 3 & 0 \end{bmatrix}$

5. $\begin{bmatrix} 4 & 8 & 9 & 3 \\ d & 5 & 3 & 1 \\ 0 & r & 6 & 1 \end{bmatrix}$

Matrix Addition

Look at examples 2 & 3 on page 200 to find out how to add matrices and multiply by a scalar, then complete the following

6. $\begin{bmatrix} 7 & 2 \\ 1 & -1 \\ 3 & 0 \end{bmatrix} + \begin{bmatrix} 3 & 5 \\ 2 & 0 \\ 6 & 3 \end{bmatrix}$

7. $6 \cdot \begin{bmatrix} 7 & 2 \\ 1 & -1 \\ 3 & 0 \end{bmatrix}$

8. $\begin{bmatrix} 5 \\ 7 \\ 3 \end{bmatrix} - \begin{bmatrix} 8 \\ 4 \\ 0 \end{bmatrix}$

9. $\begin{bmatrix} 2 & -5 & 7 \\ 6 & 3 & -9 \end{bmatrix} + \begin{bmatrix} 7 & 2 \\ 1 & -1 \\ 3 & 0 \end{bmatrix}$

Matrix Multiplication

Copy example #2 on page 208. Yes, all of it.

Determinants

In the green box on p. 214, Directions are given on how to find the determinant of a 3x3 matrix. Copy that rule here.

What are the 2 abbreviations for “the determinant of matrix A”?

Area of a triangle

p. 215 gives a method for finding the area of a triangle using determinants. Copy the rule, formula and diagram here.

Cramer's Rule

Cramer's Rule for a 3x3 matrix is given on p. 217. Copy the rule and formula here.

Inverse Matrices

The rule and formula for calculating an inverse matrix is given on p. 223. Copy.