

Chapter 16 Review Questions



Studying for a chapter examination is a personal process, one which nobody else can do for you. Simply take the time to review what you have done. Here are the new terms in Chapter 16.

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|------------------------------|---------------------------------|--------------------------------|
| Addition of matrices [16.4] | Gauss-Jordan elimination [16.3] | Row [16.3] |
| Addition method [16.1] | Graphing method [16.1] | Row+ [16.3] |
| Additive inverse [16.4] | Identity matrix [16.4] | Row-reduced form [16.3] |
| Array [16.3] | Inconsistent system [16.1] | RowSwap [16.3] |
| Associative property [16.4] | Inverse matrix [16.4] | Scalar [16.3] |
| Augmented matrix [16.3] | Inverse property [16.4] | Scalar multiplication [16.4] |
| Column [16.3] | Linear combination | Simultaneous solution [16.1] |
| Communication matrix [16.4] | method [16.1] | Singular matrix [16.4] |
| Commutative property [16.4] | Linear programming [16.5] | Square matrix [16.3] |
| Constraint [16.5] | Linear system [16.1] | Subscript [16.3] |
| Convex set [16.5] | Main diagonal [16.4] | Substitution method [16.1] |
| Demand [16.2] | Matrix [16.3] | Subtraction of matrices [16.4] |
| Dependent system [16.1] | Matrix equation [16.3, 16.4] | Superfluous constraint [16.5] |
| Diagonal form [16.3] | Multiplication of | Supply [16.2] |
| Dimension [16.3] | matrices [16.4] | System of equations [16.1] |
| Distributive property [16.4] | Multiplicative inverse [16.4] | System of inequalities [16.5] |
| Double subscripts [16.3] | Nonconformable matrices [16.4] | Target row [16.3] |
| Elementary row | Nonsingular matrix [16.4] | *Row [16.3] |
| operations [16.3] | Objective function [16.5] | *Row + [16.3] |
| Equal matrices [16.4] | Optimum solution [16.5] | Zero matrix [16.4] |
| Equilibrium point [16.2] | Order [16.3] | Zero-one matrix [16.4] |
| Equivalent matrices [16.3] | Pivot [16.3] | |
| Equivalent systems [16.1] | Pivot row [16.3] | |
| Feasible solution [16.5] | Pivoting [16.3] | |

If you can describe the term, read on to the next one; if you cannot, then look it up in the text (the section number is shown in brackets). Next, study the types of problems listed at the end of Chapter 16.

TYPES OF PROBLEMS

- Solve systems of equations by graphing, substitution, or addition, as directed. [16.1]
- Solve systems of equations by selecting the most appropriate method. [16.1]
- Solve applied problems, including coin problems, combining rates, supply and demand, and mixture problems. [16.2]
- Know the relationship between a system of equations and a corresponding matrix [16.3]

- Perform elementary row operations on a given matrix. [16.3]
- Solve systems of equations by the Gauss-Jordan method. [16.3]
- Carry out matrix operations, including finding the inverse of a given matrix. [16.4]
- Solve a system of equations using the inverse matrix method. [16.4]
- Solve a system of inequalities. [16.5]
- Decide whether a given point is a feasible solution for a set of constraints. [16.5]
- Decide whether a given point is a corner point for a set of constraints. [16.5]
- Find the corner points for a set of feasible solutions. [16.5]
- Maximize or minimize an objective function subject to a set of constraints. [16.5]
- Solve applied problems using a linear programming model. [16.5]

Once again, see if you can verbalize (to yourself) how to do each of the listed types of problems.

Work all of Chapter 16 Review Questions (whether they are assigned or not). Work through all of the problems before looking at the answers, and *then* correct each of the problems. The entire solution is shown in the answer section at the back of the text. If you worked the problem correctly, move on to the next problem, but if you did not work it correctly (or you did not know what to do), look back in the chapter to study the procedure, or ask your instructor.

Finally, go back over the homework problems you have been assigned. If you worked a problem correctly, move on to the next problem, but if you missed it on your homework, then you should look back in the book or talk to your instructor about how to work the problem.

If you follow these steps, you should be successful with your review of this chapter.