

Finite Math Section 2_4

Solutions and Hints

by Brent M. Dingle

for the book:
Finite Mathematics, 7th Edition
by S. T. Tan.

DO NOT PRINT THIS OUT AND TURN IT IN !!!!!!!!
This is designed to assist you in the event you get stuck.
If you do not do the work you will NOT pass the tests.

Section 2.4:

As with section 2.2 and 2.3 this section is often skimmed or skipped as the calculator offers a much easier way to solve these problems.

All the problems in this section can be done using a calculator. However doing them by hand can be an enlightening experience, and may be required on a test – so be sure to do some of them.

Most instructors will not ask you (for this class) to prove, show or verify anything, do not worry much about those problems – unless your instructor tells you to. =)

Problem 22:

Solve for u, x, y, and z in the matrix equation.

$$\begin{bmatrix} x & -2 \\ 3 & y \end{bmatrix} + \begin{bmatrix} -2 & z \\ -1 & 2 \end{bmatrix} = \begin{bmatrix} 4 & -2 \\ 2u & 4 \end{bmatrix}$$

So from this we know the following:

Eq 1: $x + (-2) = 4$

Eq 2: $-2 + z = -2$

Eq 3: $3 + (-1) = 2u$

Eq 4: $y + 2 = 4$

Solving these is just simple algebra:

$$\text{Eq 1: } x + (-2) = 4 \rightarrow x = 4 + 2 \rightarrow \mathbf{x = 6}$$

$$\text{Eq 2: } -2 + z = -2 \rightarrow z = -2 + 2 \rightarrow \mathbf{z = 0}$$

$$\text{Eq 3: } 3 + (-1) = 2u \rightarrow 2 = 2u \rightarrow \mathbf{u = 1}$$

$$\text{Eq 4: } y + 2 = 4 \rightarrow y = 4 - 2 \rightarrow \mathbf{y = 2}$$
