Matrix Unit – Flipped Classroom Assignments

In this unit, we will “flip the classroom.” There will be little to no lecture in class as you will watch the videos below for homework on the **night before we discuss the learning target in class**. Thus, class time will be almost entirely dedicated to formative assessments and “homework.”

**MATRIX UNIT LEARNING TARGETS**

1. Add and subtract matrices and use addition/subtraction to solve matrix equations **(12.1)**
2. Multiply matrices using **scalar multiplication** and **matrix multiplication**. **(12.2)**
3. Use row operations (*add, subtract, multiply – like solving systems using elimination*) to solve systems of equations (reduced row echelon form) **(3.6)**
4. Use addition, subtraction, and multiplication of matrices to solve real-world problems. **(12.1,12.2,3.6)**
5. Calculate the determinant of a 2 x 2 and 3 x 3 matrix **(12.3)**
6. Find the inverse of a 2 x 2 matrix **(12.3)**
7. Solve matrix equations and systems of equations using inverses of matrices and determinants. **(12.4)**

**Khan Academy Video Options:**

<https://www.khanacademy.org/math/precalculus/precalc-matrices#intro-to-matrices>

The videos, practice problems, and quizzes available on this website will teach you the majority of LT 1, LT 2, LT 3, LT 4, LT 5, LT 6 and LT 7; with the exception of 3 x 3 determinants in LT 5 and solving matrix equations that are not linear systems in LT 7. Simply look for the corresponding section based on the learning target you are attempting to teach yourself.

**Reading Assignment(s) – All pages are located in the GREEN BOOK (Volleyball player on the front)**

LT 1 = Page 185-186 and Page 193

LT 2 = Pages 194-195 (Scalar Multiplication) and Pages 200-202 (Matrix Multiplication)

LT 3 = Page 236

LT 4 = Page 186-187 Example 2 and 3, Page 195 Example 4, Page 202 Example 3

LT 5 = Page 220 (2 x 2 Determinant) and Page 221 (3 x 3 Determinant)

LT 6 = Page 229 – 231 (Chapter 4 Section 6 through Example 2)

LT 7 = Page 231 Begin reading at “Matrix Equations” through Example 3

**Other resources to learn each learning target:**

YouTube Videos

Internet Search Engine – Google, Bing, Yahoo, etc…

MathXL tutorials

EdPuzzle Videos (for those that have an account)