PC 12 Session 24

Wednesday, April 13, 2022 11:22 AM

Pre-Calculus 12 Session 24
Thursday, April 14, 2022

1. Last Day's Homework:
   - Textbook Practice: Section 7.3: pages 364-365, Practise 1, 2, 3a), c), 4, 5a), c), 7a), c), e), g), 9, 10, 11, 12. The Chapter 7 Review on pages 366 and 367. The Chapter 7 Practice Test on pages 368 and 369. Section 8.1: pages 380-381, Practise 1, 2, 3, 4, 6, 8, 9, 11, 12, 13, 14, 19.
   - Readings: Section 9.3 (pages 457 to 465).
   - Hand-in Assignments and other things: The Chapter 7 Hand-in Assignment is due in today. **The Chapter 7 Test will possibly on Thursday, April 21, but more likely on Tuesday, April 26, because there is no class on Tuesday, April 19. See below for more options.**

la) Q & A: Ch. 7 Hand-in, others?:

2. Section 8.2: Transformations of Logarithmic Functions

3. Section 8.3: Laws of Logarithms

4. Section 8.4: Logarithmic and Exponential Equations

5. The Chapter 6 Test

Homework: This depends on how far we get today.

Readings: Nothing new.

Practice from the Textbook to try:

Section 8.2: pages 389-391, Practise 1 to 10 inclusive, 13 and 16.
Section 8.3: pages 400-402, Practice 1a), c), 2a), c), 3a), c), 7a), c), e), 8a), c), 9a), c), 10, 11a), c), 13, 14, 16, 20b), d).
Section 8.4: pages 412-414, Practise 1, 2, 3, 4a), c), 5, 6, 7a), c), 8a), c), e), 9, 13, 16 (if we got that far.)

Test Options

1. **We could have the Chapter 7 Test on Thursday, April 21 (next class) and the Chapter 8 Test on Thursday, April 28.**
2. **We could have the Chapter 7 Test on Tuesday, April 26, and the Chapter 8 Test on Thursday, April 28.**
3. **We could have a combined Chapter 7/8 Test on either Tuesday, April 26 or Thursday, April 28.**

There will not be a Chapter 9 Test.

The Richter Scale is used to measure the intensity of earthquakes.
It is actually a logarithmic scale. (magnitude)

Each 1 point increase in the "Richter Number" is a 10X increase in the intensity of the earthquake.

The intensity, I, can be determined using an exponential function

$$I_2 = I_1(10)^{R_2 - R_1}$$

But when comparing the intensity of two earthquakes (I_1 and I_2) the number of times more intense that I_2 is than I_1 is given by:

$$\frac{I_2}{I_1} = \frac{10^{R_2}}{10^{R_1}}$$

$$\frac{I_2}{I_1} = 10^{R_2 - R_1}$$

$$\frac{I_2}{I_1} = 10^{9.4 - 3.7}$$

where R_1 = Magnitude of earthquake 1

R_2 = Magnitude of earthquake 2

Ex Earthquake 1: $R_1 = 3.7$ Earthquake 2: $R_2 = 9.4$ $\frac{I_2}{I_1} = 10^{5.7} = 501\,187.23$ times more intense.

E_1: $R_1 = 6.0$ E_2: $R_2 = 9.4$ $\frac{I_2}{I_1} = 10^{9.4 - 6.0} = 10^{3.4} = 2511.89$ times more intense.

Ended last day: Section 8.1