Factorials!

n! =

**Examples:**

4! = 6! =

n!= (n – 2)! =

(n + 1)!= 0! = Why?

**Practice**





**Section 8.1 Sequences**

A **sequence** is a list or set whose domain is a set of positive integers.

{a1, a2, . . . } where

**Examples:** Find the first three terms of each sequence

A sequence is increasing if

A sequence is decreasing if

A **monotonic sequence** is always increasing or always decreasing (not oscillating)

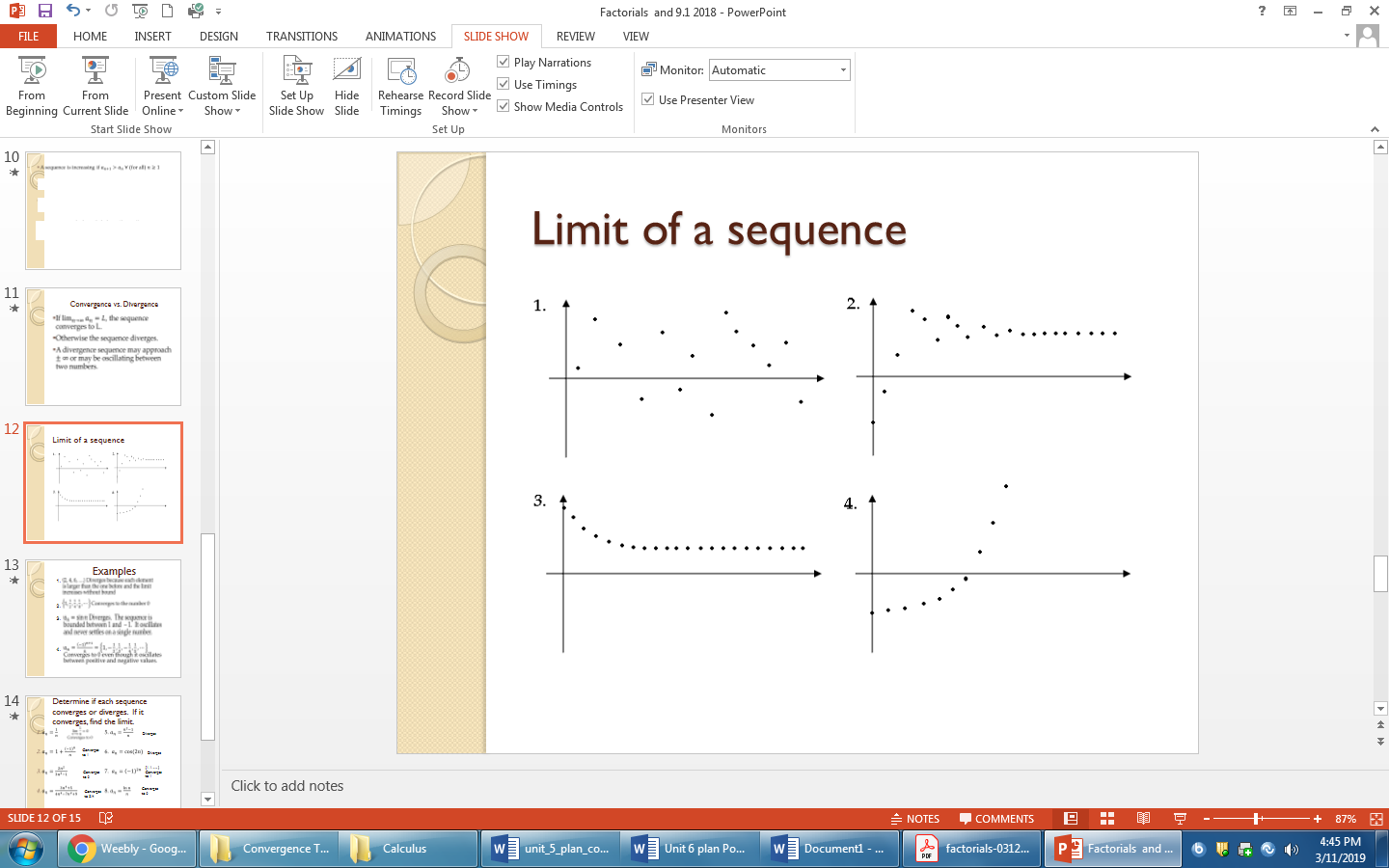
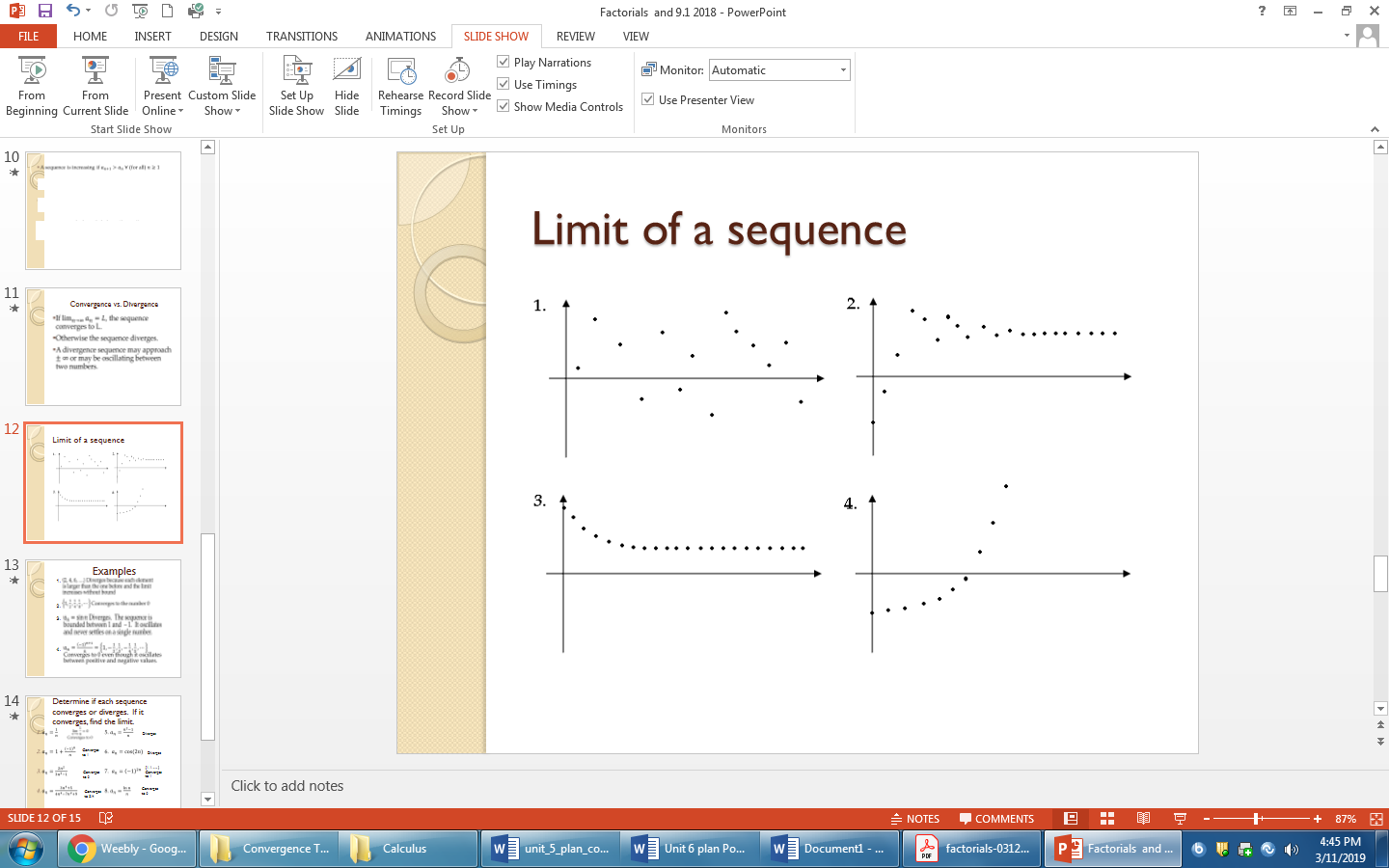
A sequence can be bounded above if or bounded below if

**Convergence vs. Divergence of a Sequence**

If , the sequence converges to L. That means, eventually, the terms become L.

Otherwise the sequence diverges.

A divergence sequence may approach or may be oscillating between two numbers.



**Examples**

1. {2, 4, 6, . . . .}

**Practice:**

Determine if each sequence converges or diverges. If it converges, find the limit.

