MATH 150

Today

1. Warm-up
2. 5.2: Limits of exponential and logarithmic functions
3. WeBWorK
4. Homefun

Goals:

1. Limits involving e (Understand the definition of e)
2. Limits of exponential functions (Understand and be able to compute limits associated with exponential functions)
3. Limits of logarithmic functions (Understand and be able to compute limits associated with logarithmic functions)

Where is today's material used?

1. Physics: radioactive decay
2. Biology: population growth
3. Economics: interest

Warm-up

1. Solve $\ln(x^2 + x - 5) = 0$.
2. Simplify $e^{\ln 2 + \ln 3}$.

5.2 Limits of Exponential and Logarithmic Functions

1. Definition of e: $e = \lim_{h \to 0}(1+h)^{1/h}$
2. **Theorem**: Exponential and logarithmic functions are continuous on their domains.
3. Limits of exponential and logarithmic functions involving infinity
4. Examples. p. 359: 18, 23, 27, 28, 29, 32, 37, 39, 47, 50, 55, 56, 58, 69-76

Next Time

1. Watch 5.3: Derivatives of exponential and logarithmic functions [17 min]