This quiz covers everything done in class on January 5, 7, and 9, and the types of homework problems assigned on those days.

Reminder: The quiz is on Wednesday January 14. There will be an optional review session Tuesday January 13 at 1pm.

- **Inverse Functions**
  A. Definition of an inverse function
    - Verifying $f(x)$ and $g(x)$ are inverses; $f^{-1}$ notation
      - $f(f^{-1}(x)) = x$ and $f^{-1}(f(x)) = x$
  B. How to find $f^{-1}(x)$ algebraically
  C. Graphs of inverse functions

- **Exponents and exponential functions**
  A. Exponent notation
    (Be able to explain the rules and how they go together, as we did in class.)
  B. Exponential functions
    - Graph of $a^x$
    - Definition of $e$
  C. Derivative of $e^x$ (computations)
    - $\frac{d}{dx}(e^x) = e^x$ and $\frac{d}{dx}[e^{f(x)}] = e^{f(x)} \cdot \left( \frac{d}{dx}f(x) \right)$
  D. Proof that $e^x$ is its own derivative.
    - If $f(x) = e^x$, use the limit definition of derivative and the choice of $e$ to find $f'(x)$. 