## Logarithms

- Logarithms undo exponential functions.
- $\log _{10}\left(10^{k}\right)=k$
- Exponential functions undo logarithms.
- $10^{\log _{10}(w)}=w$
- To solve for $x$ in $3^{x-5}=2$ you use a logarithm.
- All logarithms are cousins: $\log _{10}(x)=\frac{\log _{2}(x)}{\log _{2}(10)}$
- Logarithms are an example of an inverse function.
- $f^{-1}(f(x))=x$ and $f\left(f^{-1}(y)\right)=y$
- To compute the inverse of $f(x)$, write $y=f(x)$ and solve for $x$.

