The rules for this quiz are as follows:

- **Write your name in the upper-right hand corner of the quiz.**
- This quiz will last for 10 minutes.
- Show **ALL** work for partial/full credit. This includes any definitions, mathematics, figures, etc.
- No collaboration of any kind is allowed on the quiz.
- The quiz is closed book and closed notes.
- Calculators are allowed on the quiz provided they are used only for basic calculations.

1. (10 points; 5 points each) Suppose that you are tasked with computing the value of a function, say $f : \mathbb{R} \rightarrow \mathbb{R}$, that maps a given input value to an output result. Denote the true value of the input by $x$, so that the desired true result is $f(x)$. Suppose that you must work with inexact input, say $\hat{x}$, and that you can only compute with an approximation to the function, say $\hat{f}$.

In terms of this notation, please specify a formula for:

(a) the computational error

(b) the propagated data error.