Problem
Consider the forward, backward, and central difference approximations to the derivative of $f$ at $x$, respectively:

1. $F_h[f](x) = \frac{f(x + h) - f(x)}{h}$
2. $B_h[f](x) = \frac{f(x) - f(x - h)}{h}$
3. $C_h[f](x) = \frac{f(x + h) - f(x - h)}{2h}$

Analyze the absolute error in the above numerical approximations as $h \to 0$, for the following:

1. $f_1(x) = \sin(x)$ at $x = 1.0$ and $x = 2.0$.
2. $f_2(x) = \exp\left(-\frac{x^2}{2}\right)$ at $x = 1.1$ and $x = 2.2$.

Confirm numerically the order (with respect to $h$) of the respective numerical approximations.