

H W 11 Help

$$f(x) = x \cos(x) - x^2 \sin(x)$$

x	2.9	3	3.1	3.2
True $f'(x)$?	?	?	?
$f(x)$?	?	?	?
$f'(x)$ forward	? $e_t = ?$? $e_t = ?$? $e_t = ?$	
$f'(x)$ backward		? $e_t = ?$? $e_t = ?$? $e_t = ?$
$f'(x)$ centered		? $e_t = ?$? $e_t = ?$	

$O(h)$ forward formula:


$$\frac{f(x_{i+1}) - f(x_i)}{h}$$

$O(h)$ backward formula:

$$\frac{f(x_i) - f(x_{i-1})}{h}$$

$O(h^2)$ centered formula:

$$\frac{f(x_{i+1}) - f(x_{i-1}))}{2h}$$

Note:  means that the formula is not applicable
 $h = 0.1$