diferencia centrada para estimar la primera y
segunda derivada en $x = 1.3$ y $h = 0.1$ de la función

$$f(x) = 0.55x^3 - 0.25x + 2.6$$

		x	$f(x)$	Primera centrada

1) $x_i - 2$ 1.1 3.05705

$$f'(1.3) = \frac{3.7592 - 3.2504}{2 \times 0.1} = 2.544$$

2) $x_i - 1$ 1.2 3.2504

Primera adelante

3) x_i 1.3 3.48335

$$f'(1.3) = \frac{3.7592 - 3.48335}{0.1} = 2.7585$$

4) $x_i + 1$ 1.4 3.7592

Primera atras

5) $x_i + 2$ 1.5 4.08125

$$f'(1.3) = \frac{3.48335 - 3.2504}{0.1} = 2.3295$$

$$f(x) = 0.55x^3 - 0.25x + 2.6$$

$$f'(x) = 1.65x^2 - 0.25$$

$$f''(x) = 3.3x$$

Segunda centrada

$$f''(1.3) = \frac{3.7592 - 2 \cdot 3.48335 + 3.2504}{(0.1)^2} = 4.29$$

$$f(1.1) = 3.05705$$

$$f(1.2) = 3.2504$$

$$f(1.3) = 3.48335$$

$$f(1.4) = 3.7592$$

$$f(1.5) = 4.08125$$

Segunda adelante

$$f''(1.3) = \frac{4.08125 - 2 \cdot 3.7592 + 3.48335}{(0.1)^2} = 4.62$$

Segunda atras

$$f''(1.3) = \frac{3.48335 - 2 \cdot 3.2504 + 3.05705}{0.1^2} = 3.96$$

V. verdadero

$r = 1.3$ y $h = 0.05$

x		f(x)	Prmera centrada
x_{i-1}	1.25	3.36171875	$f'(1,3) = \dfrac{3.61570625 - 3.36171875}{2 \times 0.05}$
x_i	1.3	3.48335	$= 2.539875$
x_{i+1}	1.35	3.61570625	

Primera derivada

2.5385

$f(x) = 0.55x^3 - 0.25x + 2.6$

$f'(x) = 1.65x^2 - 0.25$

$f''(x) = 3.3x$

Segunda centrada

$f''(1.3) = \dfrac{3.36171075 - 2.240335 + 2.5.5726}{2 \times 0.05} = 4.29$

$f(1.25) = 3.36171875$

$f(1.3) = 3.48335$

Segunda derivada

4.29

$f(1.35) = 3.61257062s$