Newton Divided Differences

القانون للحل
$$b_0 = f(x_0)$$

$$b_1 = \frac{f(x_1) - f(x_0)}{x_1 - x_0}$$

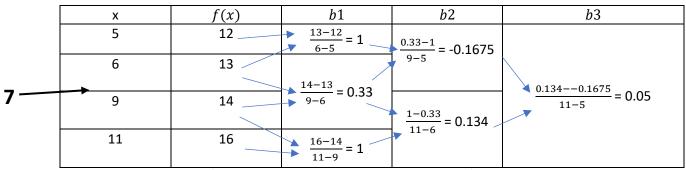
$$b_2 = \frac{\frac{f(x_2) - f(x_1)}{x_2 - x_1} - \frac{f(x_1) - f(x_0)}{x_1 - x_0}}{x_2 - x_0}$$

$$b_3 = \frac{\frac{f(x_3) - f(x_2)}{x_3 - x_2} - \frac{f(x_2) - f(x_1)}{x_2 - x_1} - \frac{f(x_1) - f(x_0)}{x_1 - x_0}}{x_3 - x_0}$$

$$f(x) = b_0 + b_1(x_1 - x_0) + b_2(x - x_0)(x - x_1) + b_3(x - x_0)(x - x_1)(x - x_2)$$

	x_0	x_1	x_2	x_3
X	5	6	9	11
F(x)	12	13	14	16

Find f(7)



نشوف السبعة وين رح تكون موجودة حتى نقدر نحدد
$$b_1$$
 المستخدمين $b_0=12$ $b_1=0.33$ $b_2=0.134$ $b_2=0.05$ $f(7)=12+0.33(7-5)+0.134(7-5)(7-6)+0.05(7-5)(7-6)(7-9)$ $f(7)=12+0.66+0.268+(-0.2)$