

MA 182  
Section 7.2

### EULER'S METHOD

You are going to use Euler's Method, with increments of 0.5, to calculate an approximation to the solution to the differential equation  $\frac{dy}{dx} = x - y$  that has the initial condition  $y(0) = 3$ .

k	$x_k$	$y_k$	$\frac{dy}{dx} = x - y$	Tangent-line approximation to solution $y_{k+1} = y_k + h \cdot f(x_k, y_k)$
0	0	3	$0 - 3 = -3$	
1				
2				
3				
4				
5				
6				