

## Formative Assessment on Tangent Lines

Instructions: Using the method we learned in class, find the equation of the tangent line to

$f(x) = x^3 - x^2 + 1$  at  $x = -1$ . Organize your work & be neat! (You MAY use technology!) Please include a graph showing  $f(x)$  and the tangent line.

$$m = \frac{f(x) - f(-1)}{x + 1}$$

x	m
-1.1	5.41
-1.09	5.3681
-1.05	5.2025
-1.01	5.0401
-0.99	4.9601
-0.95	4.8025
-0.9	4.61

As  $x \rightarrow -1$  from both sides,  
the slope approaches 5.

$$f(-1) = -1 - 1 + 1 = -1$$

$$y + 1 = 5(x + 1)$$

$$y = 5x + 4$$

eqn of tangent line

