Calculus 12
2-8 Questions

1. a) Find the slope of the tangent line to the parabola $y = 2x - x^2$ at the point $(2,0)$.

i) using Formula 1
ii) using Formula 2

b) Find the equation of the tangent line.

c) Graph the parabola and the tangent line.

2. a) Find the slope of the tangent line to the cubic curve $y = x^3$ at the point $(1,1)$.

i) using Formula 1
ii) using Formula 2

b) Find the equation of the tangent line.

c) Graph the curve and the tangent line.

3. Find the equation of the tangent line to the graph of the given function at the given point.

a) $f(x) = 4 - x + 3x^2, (-1,8)$

b) $f(x) = x^3 - x, (0,0)$

c) $g(x) = \dfrac{2x+1}{x-1}, (2,5)$

d) $g(x) = \dfrac{1}{\sqrt{x}}, (1,1)$