Tangent Line and Normal Line

To find the **Equation of the Tangent Line** at a point whose x value is a

1) Find the y-value for x = a
2) Find the slope using the Definition of Derivative (call the slope, m)
3) Write the Point-Slope formula
4) Substitute for x, y, and m in the Point-Slope Formula
5) Simplify the equation

To find the **Equation of the Normal** Line at the point whose x value is a

1) Use the y-value from 1 above
2) If the slope of the **tangent line** is m, then the slope of the **normal line** is $-\dfrac{1}{m}$
3) Write the Point-Slope formula
4) Substitute for x, y, and m in the Point-Slope Formula
5) Simplify the equation.