Quiz #9

1. Compute each of the following:
   a. \[
   \left[ \frac{\tan(3x)}{x^2 + 1} \right]'
   \]
   b. \[\frac{d}{dx}(\tan x)\]

2. Given the figure and given \[\frac{d\theta}{dt} = 2 \text{ rad/min}\], Find \[\frac{dx}{dt}\] and \[\frac{dA}{dt}\] where \(A\) is the area of the triangle when \(x = 36\ m\).

   \[
   X \quad S \quad \theta
   \]
   48 m

   \[\frac{dx}{dt} = \quad \]
   \[\frac{dA}{dt} = \quad \]

3. Find the SLOPE of the tangent line to the graph of \(x^2y^2 + 3x = 2y + 6\) at \((1,2)\).