Math 203 Spring 2019 Professor MG
Classwork 14 Name: _____

Show all work and circle/box your final answer. All answers must be simplified unless stated otherwise.

1. Find dy/dx for $(x^2+y^2)^3 = 8x^2y^2$ at the point $(-1,1)$. Use this to find the equation of the tangent line to the curve at $(-1,1)$.

2. The length of a rectangle is decreasing at the rate of 2 cm/sec while the width is increasing at the rate of 2 cm/sec. When the length is 12cm and the width is 5cm, find the rates of change of **a)** the area, **b)** the perimeter, and **c)** the lengths of the diagonals of the rectangle. Which of these quantities are decreasing, and which are increasing?