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Math 1215: Quiz #4 **Winter 2018**

Name: SOLUTIONS	A#:	Section:

1. Let $f(x,y) = y^3 - 3x^3y^2 + 2x^2 - x + 1$. Compute:

   (a) $\dfrac{\partial f}{\partial x}$

(3) $-9x^2y^2 + 4x - 1$

   (b) $\dfrac{\partial f}{\partial y}$

(2) $3y^2 - 6x^3y$

   (c) $\dfrac{\partial^2 f}{\partial y\,\partial x}$

(2) $-18x^2y$

2. The number of people who ride the bus in Halifax is a function $B(p,t)$ of the city's population p and the price t of a bus ticket. At any given point (p,t), would we expect the value of $\frac{\partial B}{\partial t}$ to be be positive or negative? Why?

(3) Negative! As ticket price increases, fewer people will ride the bus.