

Name (Last, First): _____

Student ID: _____

Dror Bar-Natan: Classes: 2015-16: MAT 475 Problem Solving Seminar:

<http://drorbn.net/16-475>

Quiz 3 on January 28, 2016: “Formulate an Equivalent Problem”. You have 20 minutes to solve as much as you can of the problems below. Please write on both sides of the page. **Good Luck!**

Problem 1 (Larson’s 1.3.1). Find a general formula for the n th derivative of $f(x) = 1/(1 - x^2)$.

Problem 2 (Larson’s 1.3.5). On a circle n different points are selected and the chords joining them in pairs are drawn. Assuming no three of these chords pass through the same point, how many intersection points will there be (inside the circle)?

Problem 3 (no credit, yet the best solutions will be advertised). What is your favourite “Formulate an Equivalent Problem” problem?