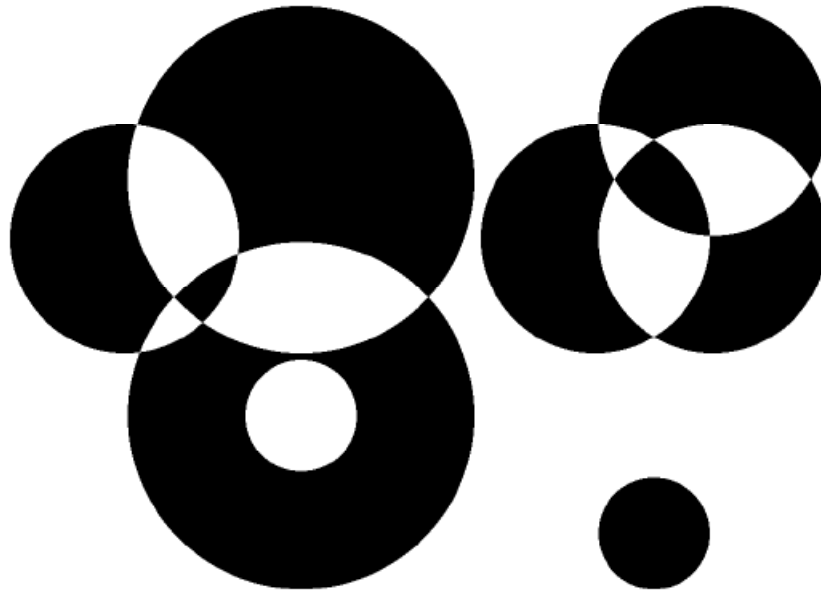


MATH-CCTH 1080H – Mathematics for Everyday Life  
TRENT UNIVERSITY, Winter 2018 in Peterborough

Assignment #3  
A Colouring Puzzle  
*Due on Friday, 2 February.*



1. Suppose that finitely many, possibly overlapping, circles are drawn in the plane, dividing it into regions whose borders are made up of circular arcs. Explain how the regions can be coloured using white and black so that no two regions sharing a common border have the same colour, and explain why your method works. [9]

NOTE. Just in case: regions touching at only finitely many points do not share a border.

2. Draw a picture explaining why this could be a Mickey Mouse problem. [1]