

**Spring 2021, Math 621: Preliminary Problem Set 6**  
**Due: Thursday, March 4th, 2021**  
**The van Kampen Theorem**

**Preliminary problems.** These should be submitted to Gradescope before Thursday discussion.

(P1) Verify The van Kampen Theorem in the special case  $X = A_1 \cup A_2$  with  $A_1 = A_2 = X$ .