Due Mon. Apr. 21 - no delays admitted!

1. (35 pts) Pb. 3, page 330, textbook.

For (a) you can show, more generally, that any convex subset $A \subseteq \mathbf{R}^n$ is contractible. (Note: There are many other examples of contractible spaces, not necessarily convex.)

2. (15 pts) Prove, using a diagram as indicated in class, the associative law for $(\pi_1(X, x_0), \star)$.

3. (15 pts) Pb. 4, page 335, textbook.