TOPOLOGY 2 - HOMEWORK 5

(1) Show that $\phi\colon G \to H$ is an isomorphism, where $G = \langle x, y \,|\, x^2 = y^3 \rangle$, $H = \langle a, b \,|\, aba = bab \rangle$, and $\phi(x) = bab$, $\phi(y) = ab$.

(2) Show that $\langle a, b, c, d \,|\, ab = c, bc = d, cd = a, da = b \rangle$ is a finite cyclic group, and find its order.

(3) Hatcher, Section 1.2, Exercise 6.

(4) Hatcher, Section 1.1, Exercise 8.

(5) Hatcher, Section 1.2, Exercise 11.