Homework #2 on §1.1-1.5 of Goodman.

Include full statements of problems in your solution set.

Write complete proofs, when proofs are requested.

Don't copy proofs from the internet!

Be honest– show what you know.

Due: Thursday, September 8, 2016 at the beginning of class "sharp"

(1) [2 points] In the manner indicated at the end of the Sept. 1st lecture notes, prove that the set of symmetries of a square is precisely \{e, r_1, r_2, r_3, a, b, c, d\}.

(2) [2 points] Exercise 1.3.3 from Goodman.
(Note that \( r^i = r_i \) for \( i = 1, 2, 3 \) from Sept. 1st lecture notes).

(3) [2 points] Describe the set of the symmetries of an equilateral triangle. Prove that this is indeed the complete set of symmetries.

(4) [1 point] Exercise 1.5.2 from Goodman.

(5) [1 point] Exercise 1.5.3(a,c,e,g) from Goodman.

(6) [1 point] Exercise 1.5.5 from Goodman.

(7) [1 point] Exercise 1.5.8 from Goodman.