

18.701 Problem Set 8

Because of the quiz on November 6, this assignment is due Wednesday, November 13.

1. Chapter 7, Exercise 8.6. (*groups of order 55*)
2. Use the Todd-Coxeter Algorithm to determine the order of the group generated by two elements x, y ,
(a) with relations $x^3 = 1$, $y^2 = 1$, and $yxyxy = 1$.
(b) with relations $x^3 = 1$, $y^4 = 1$, and $xyxy = 1$.

Be careful. Any error will collapse the group. I recommend practicing on some simpler relations first.

3. Chapter 7, Exercise M.1. Classify groups generated by two elements x, y of order two.

The element $z = xy$ is useful for this.