

Math 4060 (Cherry)

Written Assignment Due Friday, February 17 (Assignment #11)

See the bottom of page 25 of Hartshorne for some construction problems using a so-called “rusty compass.” A rusty compass is a compass whose radius cannot be changed, say it is fixed at 1 inch.

Do the following rusty compass construction problem. Given a line ℓ and a point A not on ℓ (and also far away from ℓ , so say more than two inches away from ℓ). Explain how to construct a line through A and parallel to ℓ using only a ruler and a rusty compass (par 7). Count your steps and give a careful proof that your construction works.

Optional Extra Credit due by March 6. You can write up Hartshorne Exercise 2.23 for extra credit. Be sure to prove that your construction works.