

Chris Bendel and Peter Cholak Math 222 Wednesday February 3

Be sure to carefully write up your answers. It is suggested that you first write out a draft of your proposed questions and then carefully rewrite that draft to get your final version. You do *not* have to write the answers on this sheet of paper.

Show that the equation $x^8 + 6x^4 + 8 = 0$ has no real solutions and that each complex solution is constructible.

Show that an angle of $\frac{2\pi}{51}$ is constructible, and hence a regular 51-gon is constructible. *Hint:* Make use of the angles in a regular 3-gon and a regular 17-gon which are both constructible.

Section 2.5: Problem 16.