

## Homework 7

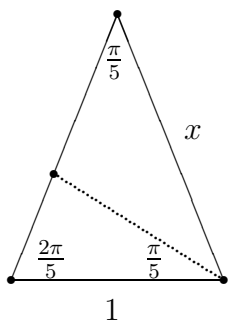
Due Friday, October 27

1. Your project group should schedule a meeting with me. (5 points)
2. Do all test problems. (5 points per problem)
3. Complete the attached sheet on Constructing a regular pentagon. (5 points per item).

## Constructing a Regular Pentagon

**C1.** What is the exterior angle of a regular 5-gon. That is, what angle do you need to construct to construct the 5-gon.

**C2.** Consider the following figure



What is the measure of  $x$ ? Show this. How can you use this to construct the needed angle.

**C3.** Construct a segment of length  $x$ .

**C4.** Construct an isosceles triangle  $ACD$  with two sides ( $AC$  and  $AD$ ) of length  $x$  and one side  $CD$  of length 1. Construct points  $B$  and  $E$  at distance 1 from  $A$  and respectively of distance 1 from  $C$  and  $D$ .

**C5.** Argue that  $ABCDE$  is a regular pentagon.