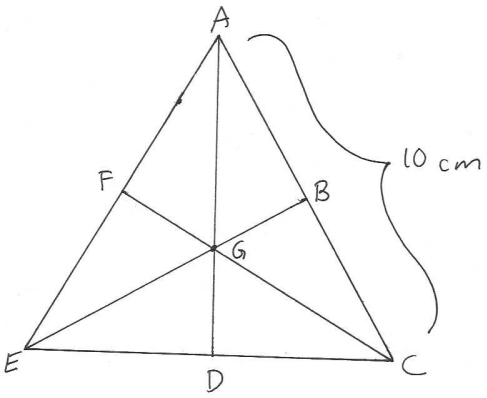
Math 375, Spring 2026, Quiz 10, 2/27/26 **Name:**

An equilateral triangle ACE is 10 cm on a side. It is divided into 6 smaller triangles, all congruent.



a) Convince yourself that the 6 small triangles are all 30-60-90 triangles.
b) Side length AC is 10 cm. Find these lengths and write as decimals rounded to hundredths.

AB = 5 cm

AD = 8.66 cm

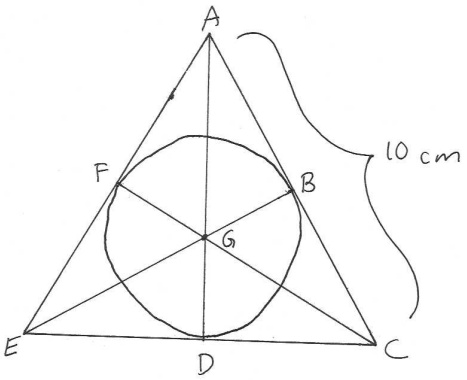
AG = 5.77 cm

BG = 2.89 cm

c) Find the area of triangle ACE.

43.3 cm^2

d) Imagine a circle centered at G, passing through points B, D, and F. Notice that BG is a radius. Find the area of this circle. Find the ratio of the area of the circle to the area of triangle ACE.



Area = 26.24 cm^2, which is 60.6% of the triangle.