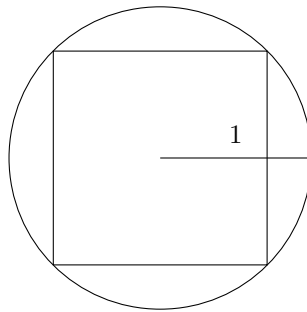


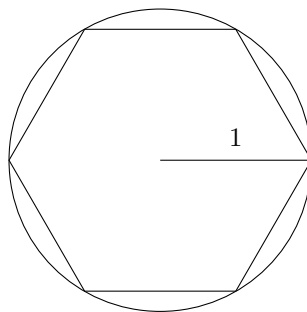
One More Time Around: More Perimeter and Circumference

January 16, 2011

1. What is the perimeter of a square inscribed in a circle of radius 1? (Hint: Draw a different radius than the one shown below...)

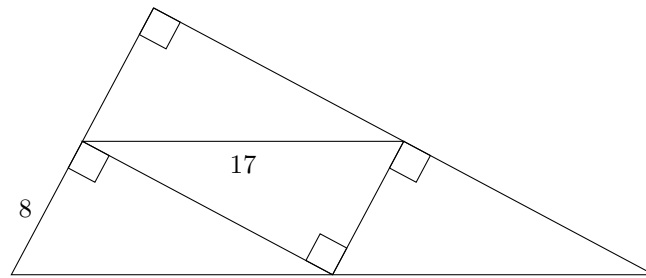


2. What is the perimeter of a regular hexagon inscribed in a circle of radius 1?



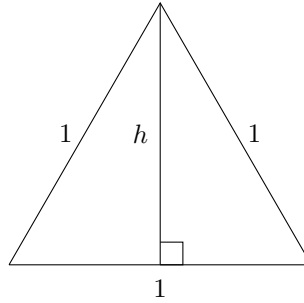
3. What do your answers to the previous two problems tell you about the value of π ?

4. The large triangle below is made from four copies of a smaller right triangle (the center copy is upside down).
- Perimeter of small triangle =
 - Perimeter of large triangle =
 - What is the ratio of large perimeter to the small perimeter?
 - Area of the small triangle =
 - Area of the large triangle =
 - What is the ratio of the large area to the small area?



5. A spider is sitting on the end of a 4 inch long minute hand of a clock. How far does the spider move, in total, between 2pm and 5:30pm?

6. What is the area of an equilateral triangle with side length 1? (Hint: How can you figure out the height, h ?)



7. A certain building is shaped like a short, fat, cylinder, with a diameter of 120 feet and height of 30 feet. If Superman is standing on the ground on the west side of the building, and needs to get to the entrance on the ground at the east side of the building, would it be less distance for him to walk around the circumference of the building, or fly straight up to the roof, walk across the roof, and then fly down along the east side of the building?

