Spaceship at the World Cup

In the middle of the World Cup, an alien spaceship zoomed through the atmosphere and landed in the middle of the field. The fans screamed and booed relentlessly, beating it with their vuvuzela horns until it flew off in a cloud of billowing smoke.

Unfortunately, the ship's boosters burned a perfectly circular hole out of the grass.

The officials looked forlornly at the brown area, trying to figure out how much sod they'd need to repair the area.

A bright goal keeper from one team strode over through the dissipating smoke and measured across the middle of the brown area with his exactly 12 inch long cleats.

"The circle is precisely 60 feet across the middle," he said confidently. "Bring me a sheet of paper and a pen and I'll tell you how much sod to buy at Home Depot down the road in order to repair this area."

To solve the questions below, you might want to draw a picture for a better idea.

Use 3.14 as the approximate value of pi.

1) How much sod will they need to buy in order to repair the field and resume play?

   Answer: 2,836 sq ft

2) As it flew off, some fans noticed the bottom of the spaceship was divided into 4 equal sections, each one blinking a different color.

   Based on the prior answer, how big was each section?

   Answer: 706.5 sq ft

3) While waiting for the sod to be purchased and replaced, one bored player started dribbling a ball around the circular burned out area. He went around exactly 10 times. How far in feet did he dribble in total?

   Answer: 1,884 ft