National Student Team Contest (first stage)
Task 9. Hydrophobic solar cells

Solar cell technologies are rapidly developing nowadays. Not only efficiency of the cells is important, but also usability. So, Russian engineers decided to modify solar cells by extremely thin nanocoating, which repels water thus protecting the cell from contamination.

Consider a drop of water which has fallen on the surface of the cell. Diameter of the drop, R, is 3 mm. Find the contact area between the drop and the cell, if the difference of surface tensions "nanocoating-water" and "nanocoating-air" is $\Delta\gamma$ = 36 mN/m. **(8 points)** Neglect the influence of gravity force on the drop.

Total – 8 points