(1)[**5 points**] From a hot-air balloon 2 km high, the angles of depression to two towns in line with the balloon are 83° and 37°. How far apart are the towns? (Round your answer to one decimal place.)

(2)[**5 points**] Suppose $\cos \phi = \dfrac{3}{5}$ where ϕ has terminal side in quadrant IV. Find the exact values of the other five trigonometric functions.

(3)[5 points] Convert $\theta = -\dfrac{5\pi}{4}$ to degrees and show the angle θ in standard position within the unit circle.