Quiz **Name**

1. Use a calculator and the the fact that $\sin\theta \approx \theta$ for any small angle θ (in radians) to calculate an approximation of $\sin 3°$. Then use your calculator again to compute $\sin 3°$ directly and compare what you get with your approximation.

2. Let r_M and r_S be the radii of the Moon and the Sun respectively, and let D_M and D_S be the distances from the Earth to the Moon and Sun respectively. A Greek philosopher looks out at the sky and sees a solar eclipse (the precise time on which the Moon just barely but completely blocks out the light coming from the Sun). He is aware of the estimate of 2° for the angular diameters of both the Sun and the Moon. He draws a very careful diagram of what he observes and correctly writes down all the information about r_M, r_S, D_M, and D_S that his diagram provides. What diagram did he draw and what information did he write down?

2. Draw a circle of radius 3. Put in a diameter AB and choose a point C on the circle such that

the angle $\angle CAB$ is $30°$. Determine the lengths of the segments AC and BC. Find then area of the triangle ΔABC.