

## Worksheet §0

Due: Tuesday, August 26

Remember, where appropriate, explain how you got your answers! No calculators are allowed or needed.

1.
  - (a) Draw an equilateral triangle with side length 2, and draw an altitude of it. Compute the lengths of all line segments and measures of all angles in your picture.
  - (b) Draw a square with side length 1, and draw one of its diagonals. Compute the lengths of all line segments and measures of all angles in your picture.
2. Evaluate.
  - (a)  $\int_{-1}^1 \sin(x^3) \, dx$
  - (b)  $\int_{-1}^1 \sqrt{1-x^2} \, dx$
3. Convert the polar coordinates  $r = 2$ ,  $\theta = 2\pi/3$  to rectangular coordinates.
4. Convert the rectangular coordinates  $(3, -3)$  to polar coordinates.