A LaTeX Template

SUNY Stony Brook

1. The first example

Problem 0, Chapter 1, page 26: Prove the circle is round.

Proof. This is clear from the formula $x^2+y^2=1$, and even more so from the complex form

$$\begin{aligned} |z|^2 &= (x+iy)\overline{(x+iy)} \\ &= 1 \\ &= \frac{1+i}{2+i-1}, \end{aligned}$$

or it can be observed in Figure 1:

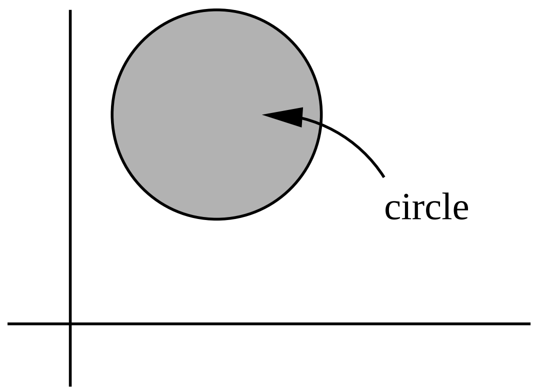

Figure 1. This picture was created using xfig and then exporting to postscript. It clearly demonstrates the roundness of a circle.

□

2. Some consequences

The following result is left to the reader:

Lemma 2.1. *Rectangles are not circles.*

Using Lemma 2.1, the reader can also verify

Corollary 2.2. *Squares are not circles.*