Problem Solving Session

Be prepared to discuss the following problems in class on Thursday, **November 28***.*

1. Prove for all $x \in \mathbb{R}$ that
$$\frac{x^2 + 2}{\sqrt{x^2 + 1}} \geq 2.$$

2. Find all ordered pairs of positive real numbers (x, y) such that
$$x^y = y^x.$$

(Note that $2^4 = 4^2$.)