Math 182 Honors Quiz 11 Version A

1. Prove that an increasing sequence which is bounded must converge.

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2. Solve the homogeneous initial value problem

$$
\left\{\begin{array}{l}
y^{\prime}=\frac{2 x y}{x^{2}+y^{2}} \\
y(0)=2
\end{array}\right.
$$

