Quiz 11

Spring 2016

MATH 222-004

Name: _____

For full credit please explain all of your answers. **No calculators** are allowed.

Problem 1. Determine the interval of convergence for the following power series, remember to check the endpoints.

$$\sum_{n=1}^{\infty} \frac{nx^n}{5^{n-1}}$$

Problem 2. Do there exist real numbers x and y such that

$$x\begin{pmatrix}1\\2\end{pmatrix} + y\begin{pmatrix}1\\1\end{pmatrix} = \begin{pmatrix}2\\1\end{pmatrix}$$

Where $\binom{1}{2}, \binom{1}{1}, \binom{2}{1}$ are vectors. Defend your answer. If no, why? If yes, you can explain why or find a solution.