1. For $c \neq 0$, the Geometric Series $\sum_{n=0}^{\infty} cr^n$ converges to $\frac{c}{1-r}$ for $\________$ and diverges for $\________$. 

2. The $p$-series $\sum_{n=1}^{\infty} \frac{1}{n^p}$ converges for $\________$ and diverges for $\________$. 

3. Use the Integral Test to show the following series converges. Be sure to verify the hypotheses, use proper notation, and draw an appropriate conclusion.

$$\sum_{n=1}^{\infty} \frac{4}{n^2 + 1}$$