

# Quiz #9

Please print your name:

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**Problem 1. (3 points)** Write down the geometric series. When does it converge, and what does it converge to?

  geometric series	=  what it converges to	provided that:  condition for convergence
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**Problem 2. (2 points)** Write down the  $p$ -series. When does it converge?

  $p$ -series	provided that:  condition for convergence
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**Problem 3. (5 points)** Determine the radius of convergence of the power series  $\sum_{n=1}^{\infty} \frac{3^n}{n} (x-2)^n$ .

**Problem 4. (bonus!)** What is the exact interval of convergence for the series above?