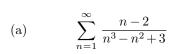
## Quiz #9

Please print your name:

**Problem 1.** Under which condition does  $\sum_{n=1}^{\infty} \frac{1}{n^p}$  converge?

**Problem 2.** Determine whether the following series converge or diverge.

Make sure to indicate a reason!



(b)  $\sum_{n=1}^{\infty} \frac{1}{2\sqrt{n} + \sqrt[3]{n}}$ 

(c)  $\sum_{n=1}^{\infty} \frac{5^n}{\sqrt{n} \, 4^n}$ 

**Problem 3.** For which values of x does  $\sum_{n=0}^{\infty} 2^n x^n$  converge? Evaluate the series (as a function of x) for these values.