Math 2260 Quiz 15.5 (Practice)

Name _____

Points will be deducted for untidy or disorganized answers

1. (2 point) For what values of x does the infinite series

$$\sum_{n=1}^{\infty} 4\left(\frac{x}{5}\right)^n$$

   converge and find the sum of the series (as a function of x) for thiose values of x.

2. (3 points) Determine which of the follow series converge, and which diverge. Give reasons for your answer.

   (a)
$$\sum_{n=1}^{\infty} \left(1 + \frac{1}{n}\right)^n$$

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

   (c)
$$\sum_{n=1}^{\infty} \frac{1}{(\ln n)^2 n}$$