

## Math 2260 Quiz 15

Name \_\_\_\_\_

*Points will be deducted for untidy or disorganized answers*

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

$$\sum_{n=0}^{\infty} 3 \left( \frac{x-1}{2} \right)^n$$

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

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

(a)

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

(b)

$$\sum_{n=1}^{\infty} \frac{1}{n\sqrt{n}}$$

(c)

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