

Please show **all** your work! Answers without supporting work will not be given credit.
Write answers in spaces provided.

Name: _____

1. [2 pts each] If the given series converges, then find its sum. If not, state that it diverges.

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

(b) $\sum_{n=0}^{\infty} 6 \left(\frac{-1}{9}\right)^n$

Answer: _____

Answer: _____

2. [6 pts] Express $f(x) = \frac{3}{1+2x}$ as a power series and its radius of convergence.

$$\frac{3}{1+2x} = \underline{\hspace{10cm}}$$

$$R = \underline{\hspace{10cm}}$$