Quiz 11 Problem # 1

Name: Group Members:

Date:

Show all work for full credit.

Find the radius and interval of convergence for the following series.

$$\sum_{n=1}^{\infty} \frac{(-2)^n}{\sqrt{n}}(x+3)^n$$

Quiz 11 Problem # 2

Name: Group Members:

Date:

Suppose that the series $\sum_{n=0}^{\infty} c_n x^n$ converges when $x = 5$ and diverges when $x = -8$. What can be said about the convergence or divergence of the following series?

(a) $\sum_{n=0}^{\infty} c_n$

(b) $\sum_{n=0}^{\infty} c_n(-3)^n$

(c) $\sum_{n=0}^{\infty}(-1)^n c_n 9^n$

(d) $\sum_{n=0}^{\infty} c_n 6^n$

Quiz 11 Problem # 3

Name: Group Members:

Date:

Determine whether the series converges or diverges. Justify your answers using one or more of the 7 series tests. Clearly state the name of test that you use and your conclusion.

$$\sum_{n=1}^{\infty} \frac{100^n}{n!}$$

$$\sum_{n=1}^{\infty} \frac{\sqrt{n^2+2}}{n^3+n+1}$$

$$\sum_{n=1}^{\infty} \frac{n^2-1}{15n+20n^2}$$