QUIZ 7

(take-home, due March 10)

NAME:

A) Find the second-degree Taylor polynomial $T_2(x)$ of

$$f(x) = \frac{5}{x + 2}$$

centered at $x_0 = 3$. Show all work.

B) Plot $f(x)$ and $T_2(x)$ on the same graph for $2 \leq x \leq 4$.

C) Find the radius and the interval of convergence of the power series

$$\sum_{n=0}^{\infty} \frac{(-1)^n}{5^n} (x - 3)^n.$$

Show all steps.

D) What is the sum of the power series in part C? Explain.