

7. [8 points] Consider the power series

$$\sum_{n=1}^{\infty} \frac{2^n}{3n} (x - 5)^n.$$

In the following questions, support your answers by stating and properly justifying any test(s), facts and computations you use to prove convergence or divergence. Show all your work.

a. [4 points] Find the radius of convergence of the power series.

Radius of convergence: _____

b. [4 points] Find the interval of convergence of the power series. Make sure to cite all the tests you use to find your answer.

Interval of convergence: _____