

6. [10 points] The power series

$$\sum_{n=1}^{\infty} \frac{6}{7^n \sqrt{n^2 + 2n}} (x - 3)^n$$

has radius of convergence 7. (You can assume this to be true, and you do NOT need to verify this).

Find the **interval** of convergence for the power series. Show all your work including full justification of convergence and divergence of any relevant series.

Answer: \_\_\_\_\_