

# 11.6 # 6

$$\sum_{n=1}^{\infty} \frac{3^{2n+1}}{n^3 2^{4n-1}}$$

$$a_n = \frac{3^{2(n+1)+1}}{(n+1)^3 2^{4(n+1)-1}}$$

$$a_{n+1} = \frac{3^{2n+3}}{(n+1)^3 2^{4n+3}}$$

$$\lim_{n \rightarrow \infty} \left| \frac{3^{2n+3}}{(n+1)^3 2^{4n+3}} \cdot \frac{n^3 2^{4n-1}}{3^{2n+1}} \right|$$

$$\lim_{n \rightarrow \infty} \left| \frac{3^2}{2^4} \cdot \frac{n^3}{(n+1)^3} \right| = \frac{9}{16} < 1$$

The series is Abs. conv.