Convergence of Series II - Worksheet

1. Is $\sum_{n=1}^{\infty} \frac{1}{2n-1}$ convergent? Why?

2. Is $\sum_{n=0}^{\infty} \frac{3^n}{n!}$ convergent? Why?

3. Is $\sum_{n=1}^{\infty} \frac{a^n n^2}{n!}$ convergent for $a \neq 1$? Why?

4. Is $\sum_{n=1}^{\infty} \frac{1}{n^{3/2}+n^2}$ convergent? Why?

5. Is $\sum_{n=1}^{\infty} \frac{(10)^n}{2^{n+1}n^2}$ convergent? Why?

6. Is $\sum_{n=1}^{\infty} \frac{(-1)^n}{\sqrt{n}}$ convergent? Why?

7. Is $\sum_{n=1}^{\infty} \frac{2^n\sqrt{n}}{n!}$ convergent? Why?

8. Is $\sum_{n=0}^{\infty} \frac{(n+1)!}{(100)^n\sqrt{n!}}$ convergent? Why?

9. Is $\sum_{n=0}^{\infty} \frac{(2n)!}{(n!)^2}$ convergent? Why?

10. Is $\sum_{n=0}^{\infty} \sin^{-1}(e^{-n})$ convergent? Why?
