1.   Use any appropriate test to determine convergence:

$$\sum_{k=1}^{\infty} \frac{(-1)^k}{\sqrt{k^{1/2} + k}}$$

1. Use any appropriate test to determine convergence:

$$\frac{1}{1!} + \frac{4}{2!} + \frac{9}{3!} + \frac{16}{4!} + \frac{25}{5!} + \cdots$$