Do the following series converge conditionally, converge absolutely, or diverge?

1. $\displaystyle\sum_{n=4}^{\infty} (-1)^{n+1} \frac{n}{n^2 - 1}$

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

3. $\displaystyle\sum_{k=1}^{\infty} \frac{\cos(k)}{k^4 + 1}$