

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

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

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

3.
$$\sum_{k=1}^{\infty} \frac{2 \sin(k) + 1}{k^4 + 3}$$