Comparing Improper Integrals

Determine whether or not the following integrals converge:

$$\int_1^\infty \frac{x^3}{x^4 - 1}\, dx \tag{1}$$

$$\int_1^\infty \frac{1}{x^2 + 7x + 2}\, dx \tag{2}$$

$$\int_1^\infty \frac{3 + \sin(3x^2)}{x^4 + 1}\, dx \tag{3}$$