

Name _____

1. Determine if the following series converge or diverge. You must fully justify your answers.

(a)
$$\sum_{k=1}^{\infty} \frac{k^2 + 15}{k^4}$$

(b)
$$\sum_{k=1}^{\infty} \frac{k^3 + 1}{2k^3 + 5}$$

$$(c) \sum_{k=1}^{\infty} \frac{1}{\sqrt{k}}$$

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