Math 1552, Integral Calculus

Sections 10.3-10.4: Integral and Comparison Tests

Determine whether the following series converge or diverge. Justify your answers using the tests we discussed in class.

(1)

$$\sum_{k=1}^{\infty} \frac{3^{2k}}{8^k - 3}$$

(2)

$$\sum_{k=1}^{\infty} \frac{k+2}{\sqrt{k^5+4}}$$

(3)

$$\sum_{k=1}^{\infty} \frac{k+3}{\sqrt{k^2+1}}$$

(4)

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