

Do the following series converge or diverge?
If they converge, find the value to which they converge.

1.
$$\sum_{k=0}^{\infty} \frac{3^k}{(-4)^k}$$

2.
$$\sum_{k=0}^{\infty} \frac{4}{3^k}$$

3.
$$\sum_{k=2}^{\infty} \frac{5^k}{2^k}$$

4.
$$\sum_{k=42}^{\infty} \frac{1}{5^k}$$

Notice where k begins!