For each series below, does the series converge or diverge? If it does converge, find the value to which it converges. *Note in each case where the series starts!*

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

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

Do the following series converge or diverge?

1. $\displaystyle\sum_{k=1}^{\infty} \frac{2k^2 - 3}{5k^2 + 6k}$

2. $\displaystyle\sum_{k=98}^{\infty} \frac{3^k + \sin(k)}{\cos(k) + 5}$

3. $\displaystyle\sum_{k=2}^{\infty} \frac{5^k - 6k - 27}{7^k + 14k^2 + k}$

                                                          Sklensky