1.(1 pt) If the following series converges, compute its sum. Otherwise, enter INF if it diverges to infinity, MINF if it diverges to minus infinity, and DIV otherwise.

$$\sum_{n=1}^{\infty} \frac{4}{n(n+2)}$$

(Hint: try breaking the summands up partial fractions-style.)

2.(1 pt) For the following series, if it converges, enter the limit of convergence. If not, enter "DIV" (unquoted).

$$\sum_{n=1}^{\infty} \ln(2(n+1)) - \ln(2n)$$

3.(1 pt) Determine the sum of the following series.

$$\sum_{n=1}^{\infty} (\sin(\frac{9}{n}) - \sin(\frac{9}{n+1}))$$

4.(1 pt) Decide whether each of the following series converges. If a given series converges, compute its sum. Otherwise, enter INF if it diverges to infinity, MINF if it diverges to minus infinity, and DIV otherwise.

___ 1.
$$\sum_{n=1}^{\infty} (\sin(\frac{2}{n}) - \sin(\frac{2}{n+1}))$$

___ 2.
$$\sum_{n=1}^{\infty} (\sin(2n) - \sin(2(n+1)))$$

___ 3.
$$\sum_{n=1}^{\infty} (e^{(10n)} - e^{10(n+1)})$$

5.(1 pt) If the following series converges, compute its sum. Otherwise, enter INF if it diverges to infinity, MINF if it diverges to minus infinity, and DIV otherwise.

$$\sum_{n=1}^{\infty} (e^{(-1n)} - e^{-1(n+1)})$$