1 Use the comparison theorem to decide whether \( \int_{10}^{\infty} \frac{1}{2x^2 - \sqrt{x}} \, dx \) converges. Show the relevant inequalities carefully.

2 Write proof of the value of the limit

\[
\lim_{n \to \infty} \frac{6n - 4}{2n + 5}.
\]

This means that you must find a recipe which, given any \( \varepsilon > 0 \), produces an \( N \) that works.

3 Write proof of the value of the limit

\[
\lim_{n \to \infty} \frac{6n - 4}{2n - 5}.
\]