1. Determine whether the following integral is convergent or divergent. Evaluate it, if it is convergent.

\[ \int_{1}^{\infty} \frac{1}{(2x + 1)^3} \, dx \]

2. Determine whether the following integral is convergent or divergent. Evaluate it, if it is convergent.

\[ \int_{0}^{1} x^{-\frac{1}{2}} \, dx \]