Name: Section: 7   8

1. Evaluate the following improper integrals.

(a) Find $\int_3^4 \frac{1}{\sqrt{x-3}} \, dx$.

(b) Find $\int_2^\infty \frac{1}{x(\ln x)^3} \, dx$.

2. Find the limit of the following sequences.

(a) $\left\{ \dfrac{2n+1}{1-4\sqrt{n}} \right\}_{n=1}^{\infty}$

(b) $\left\{ \dfrac{n+(-1)^n}{n} \right\}_{n=1}^{\infty}$

(c) $\left\{ \left(1+\dfrac{2}{n}\right)^n \right\}_{n=1}^{\infty}$

(d) $\left\{ \left(-\dfrac{1}{3}\right)^n \right\}_{n=1}^{\infty}$