Exercise Supplemental 1:   Show that the sequence $(-1)^n$ does not converge.

Proof.   □

Exercise Supplemental 2:

(a) Show that for all $n \in \mathbb{N}$, $2^n \geq n$.

(b) Show that $\lim_{n \to \infty} 1/2^n = 0$.

Part (a).   □

Part (b).   □

Exercise 2.2.2:   From the definition, compute the given limits.

Part (a).   □

Part (b).   □

Part (c).   □

Exercise 2.2.3:   Describe what needs to be shown to disprove the given statements.

Solution:

(a)

(b)

(c)

Exercise 2.2.6:   Prove that limits are unique.

Proof.   □

Exercise 2.2.5(a):   Determine, with a proof, $\lim_{n \to \infty} [[5/n]]$.

Solution:
Claim: The limit is ??.

Proof.   □

Exercise 2.3.9(a)(c):

(a) If (a_n) is a bounded sequence and $b_n \to 0$, show $a_n b_n \to 0$.

(c) Prove Theorem 2.3.3(iii) for the case $a = 0$.

Solution:

(a) *Proof.*   □

(c) *Proof.*   □