Questions for EZQuiz 3

- Define *right-linear* (p89)

- Example 3.14 (p90)

- State the relationship between regular languages and regular grammars. Solution: Theorem 3.6 (p95).

- Section 3.3, exercise 4

- State the closure properties of regular languages under *elementary* set operations. Solution: Theorem 4.1 (p100)

- State the closure properties of regular languages under *non-elementary* set operations. Solution: The family of regular languages is closed under reversal, homomorphisms, and right quotients. (This combines Theorems 4.2, 4.3, and 4.4.)

- Section 4.1, exercises 7 and 14

- You must know the statements *and proofs* of Theorems 4.5, 4.6, and 4.7 (p112). Examples of possible questions include:

  - State and prove the theorem about determining equality of regular languages.

  - Is there an algorithm for determining whether a regular language is infinite? Justify your answer with a mathematical proof.

- Prove that $L = \{a^n b^n : n \geq 0\}$ is not regular. (This is Example 4.6, p114.)