7. (10 points) Dummit-Foote, 10.5 #1.

8. (10 points) Dummit-Foote, 10.5, #2.

9. (10 points) Dummit-Foote, 10.5, #6. (And prove (i) and (ii) are each equivalent to: (iii) every short exact sequence of $R$-modules is split.)

10. (10 points) Dummit-Foote, 17.1, #2.

11. (10 points) Assuming the snake lemma, finish the proof sketched in class of the exactness of the complex

$$\cdots \to H^i(A^\bullet) \to H^i(B^\bullet) \to H^i(C^\bullet) \to H^{i+1}(A^\bullet) \to \cdots$$

associated to a short exact sequence of complexes $0 \to A^\bullet \to B^\bullet \to C^\bullet \to 0$. 