Proofs

This is a list of proofs of theorems/propositions/lemmas which we ask the students to study for the exam. If a student is asked to repeat the proof of Theorem x, he or she can use (without proof) all statements of results from A&M with number <x. The list is not supposed to contain all results that are interesting, but contains results that cover a variety of 'flavours'.
(1) 1.8, 1.11
(2) 2.4
(3) 3.11
(4) Nothing from chapter 4
(5) 5.1, 5.2. 5.7-5.10
(6) Nothing from chapter 6
(7) 7.5,7.17
(8) 8.7
(9) 9.1,9.2
(10) 10.2, 10.22
(11) 11.1
The list above has 18 theorems

Exercises

(1) 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 15, 16, 17, 18, 19, 20, 21, 22, 26, 27, 28

(2) 2, 3, 7, 8, 9, 10, 14

(3) 3, 13, 16, 21

(4) 1, 2, 3, 4, 5, 6, 7, 8, 10

(5) 1, 2, 3, 4, 5, 10, 11

Let A be a local domain. TFAE: 1- A is a valuation ring; 2- Let I,J be ideals in A: one is contained in the other; 3- any finitely generated ideal of A is principal.

Let A be a valuation ring. Then, A is a DVR or a field iff it is Noetherian.

(6) 5, 8, 9

(7) 2, 4, 8, 11, 14

(8) 2, 3, 4

(9) 1, 5, 6

(10) 3, 4

(11) 1, 6