1. Sets, relations and arguments

1.1 i) a) No   b) Y   c) N (no 0-0) d) N (H-0 and H-H)

ii) a) N   b) N   c) Y   d) N

iii) a) N   b) Y   c) Y   d) Y

iv) a) N   b) Y   c) Y   d) Y (?)

1.2 $A \rightleftarrows B \rightleftarrows C$ i.e. $\{ \langle A, B\rangle, \langle B, A\rangle,$
$\langle B, C\rangle, \langle C, B\rangle \}$

1.3   R: ∅   S: ∅   (only possible solution?
~~Bm~~ ~~Bm~~ ~~Bm~~ as asymmetric ⇒ no loops)

1.4   Yes, as for $\langle$London, Rome$\rangle$, $\langle$London, capital ...$\rangle$, the second element in the two pairs is the same object.

1.5 a) Y   b) Y   d) N   d) N (as antisymmetric)   e) N for same reason?
↳ is a relation a/symmetric "on a set S" or merely a/symmetric on its own?

1.6 i) Not symmetric. Transitive. Not function.
ii) Not symm. Not trans. Not func.
iii) Not symm. Not trans. ~~Not~~ A func. ~~suppose not always actually~~
iv) Not symm. Not trans.. Func. (though not really true)
v) Symm. Not trans. Not func.

1.7 Prem.	Conc.	Valid ?
i) Men mortal, S is a man	S is mortal	✓
ii) Houses if interest, but HU and not IM	PM becomes King of F	✓ anything follows contradiction?
iii) Got job there, can't find another	T move to Edin.	✗
iv) A can see house	Alfred has at least 1 eye	✗
v) If mind imm, not ident. w' body	If mind ident., not imm	✓ ~~~~
vi) It hasn't got a tail	This a Manx cat.	✗

1.8

C: Many will go to H's but not not many to S's.
P: Many will be in either if at same time.
S will be at same time as H.
If H entertaining many go to them.
If S's entertaining, H's must be too.
Many will go to S's only if entertaining.

(does this really form a valid argument?
nowhere does it say why more at H than S, if
both entertaining...)