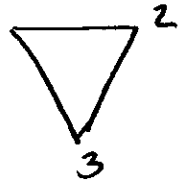
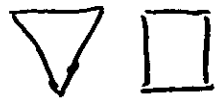
8.2b page 395-397

Review 7-15 all

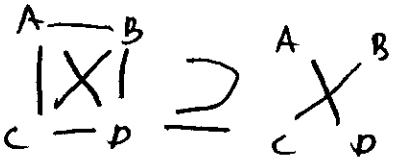
Exercise 19-27 odd

(7) A graph is connected, if, given any vertices v and w, there is a path from v to w

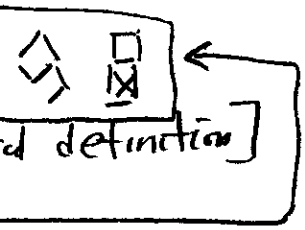
(8) 

(9) 

(10) Let $G = (V, E)$ be a graph. (V', E') is a subgraph of G if $V' \subseteq V$, $E' \subseteq E$, and for every edge $e' \in E'$, if e' is incident on v' and w', then $v', w' \in V'$

(11) 

(12) A component of a graph is a connect subgraph that is a subgraph of non connected graph. Example at right shows a non connected graph with two components. [See Back of book for mathematical definition]



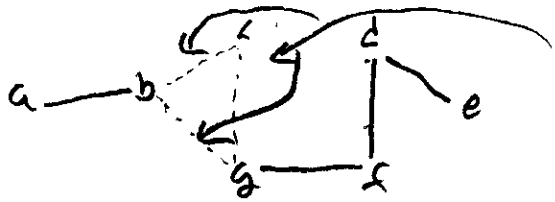
(13) see #12

(14) A connected graph has <u>one</u> component.

(15) The degree of a vertex is the number edges incident on v.

Exercise

#19 (a,a) (b,g,c b) (b,g,f,d,c,b) (b,g,f,e,d,c,b)
(g,f,d,c) (g,f e,d,c) (d,f,e)

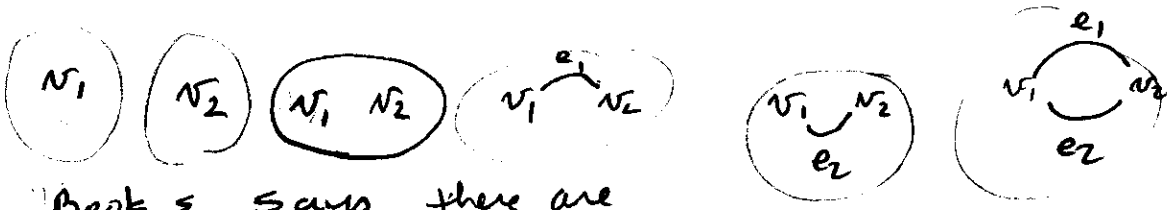
(21) 

Any two of the three

(23) $v_1 - 2$ $v_4 - 6$ $v_7 - 4$ $v_{10} - 2$

$v_2 - 2$ $v_5 - 2$ $v_8 - 4$

$v_3 - 3$ $v_6 - 3$ $v_9 - 4$

(25) 

Book's saup there are six subgraphs, Yes the six shown above.

I guess an empty graph is not a graph. /* must have one vertex */ problem

(27) Good Luck - Book saup there are only 17 subgraphs.

Sorry about that.

0-edges | one edge each

$(v_1)(v_2)(v_3)$ $(v_1 v_2)(v_1 v_3)(v_2 v_3)$ $(v_1 v_2)$ $(v_1 v_3)$ $(v_2 v_3)$

1 1 1 1 1 1

1-edge | 2 edges | 3 edges | no edge

$(v_1 v_2 v_3)$ $(v_1 v_2 v_3)$ $(v_1 v_2 v_3)$

3 3 1 1

12 15 17