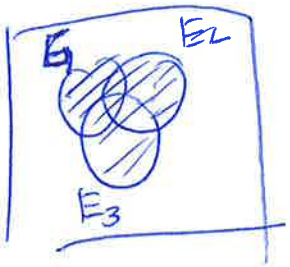
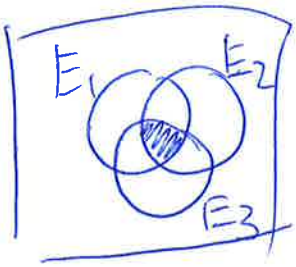
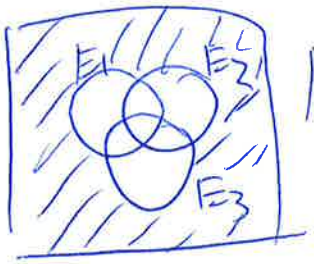
6.14 (P. 284) — Engineering Construction.

a). 

At least one plant is completed

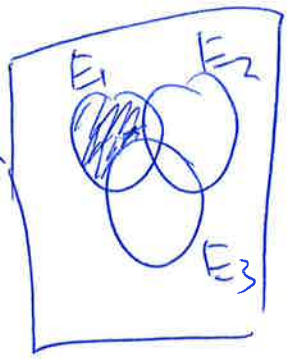
b). 

All plants are completed by the Contract date

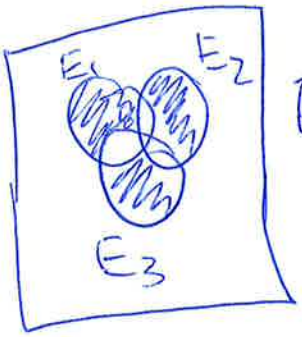
c). 

None of the plants are completed

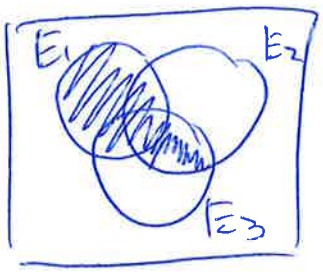
6.15

a) 

Only E_1

b). 

Exactly one plant

c) 

E_1 or both of the other two plants.

6.35 (p.297) – Student committee

a. {(B,C), (B,M), (B,P) , (B,S),
(C,M), (C,P), (C,S),
(M,P), (M,S),
(P,S)} (Order is not important)

b. P(simple event) $= \frac{1}{10} = 0.1$

c. P(S) $= \frac{4}{10} = 0.4$

6.36 (p.297) – Employment Interviews

3 Maths students = $\{M_1, M_2, M_3\}$
2 Statistics students = $\{S_1, S_2\}$

Possible outcomes are :
$\{(M_1, M_2), (M_1, M_3), (M_1, S_1), (M_1, S_2),$
$(M_2, M_3), (M_2, S_1), (M_2, S_2),$
$(M_3, S_1), (M_3, S_2)$
$(S_1, S_2)\}$ (Order is not important)

a. P(S,S) $= \frac{1}{10} = 0.1$

b. Possible outcomes for all Maths students are:
$\{(M_1, M_2), (M_1, M_3), (M_2, M_3)\}$
P(M,M) $= \frac{3}{10} = 0.3$

c. Possible outcomes for at least one of the students selected S:
$\{(M_1, S_1), (M_1, S_2), (M_2, S_1), (M_2, S_2), (M_3, S_1), (M_3, S_2), (S_1, S_2)\}$
P((M,S) ∪ (S,M) ∪ (S,S)) $= \frac{7}{10} = 0.7$

d. P((M,S) ∪ (S,M)) $= \frac{6}{10} = 0.6$