PAGES

(4) a) 0.6 ~~4.0~~ 2.5 3.2 0.5 2.6 0.4 0.3 4.0 1.0
4.0

4.0 3.2 4.0 [2.6] 0.6 2.5 0.5 0.4 0.3 1.0

4.0 4.0 [3.2 2.6] ~~2.5~~ 0.6 2.5 0.5 1.0 [0.4] 0.3

4.0 [4.0 3.2 2.6] 0.6 2.5 1.0 [0.5 0.4 0.3]

[4.0 4.0 3.2 2.6 2.5] 0.6 1.0 [0.5 0.4 0.3]

[4.0 4.0 3.2 2.6 2.5 1.0] 0.6 [0.5 0.4 0.3]

all sublists size 1 so stop.

b)

Bin1	Bin2	Bin3	Bin4	Bin5
4	4	3.2	2.6	2.5
		0.6	1	0.5
			0.4	0.3

c) total length = 19.1 $\frac{19.1}{4}$ = 4.775 so 5 bins needed

∴ solution is optimal.

---

(5) a)

S	T	R	R>0?	Output
25000	0	17000	Y	
	3400	7000	Y	
	~~44~~50	-5000	N	~~44~~50

b) £4450

c) £8000

⑥ a) this shows that E is dependent on A and B while C and D are dependent on A only.

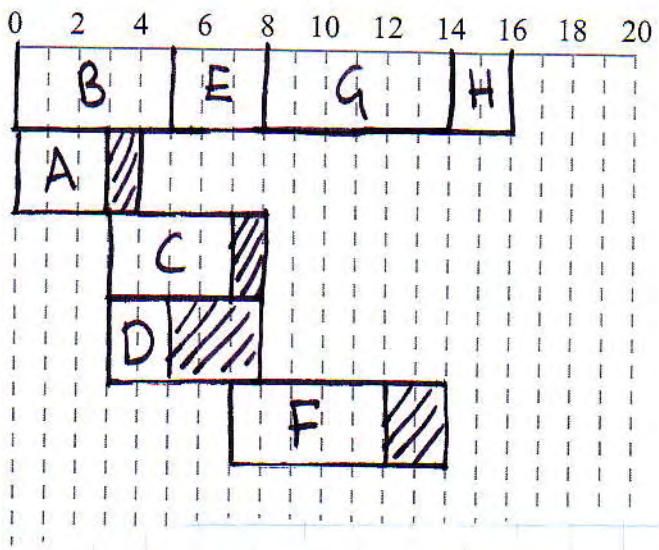
b)

Event	Preceding activity
A	—
B	—
C	A
D	A
E	A, B
F	C
G	C, D, E
H	F, G

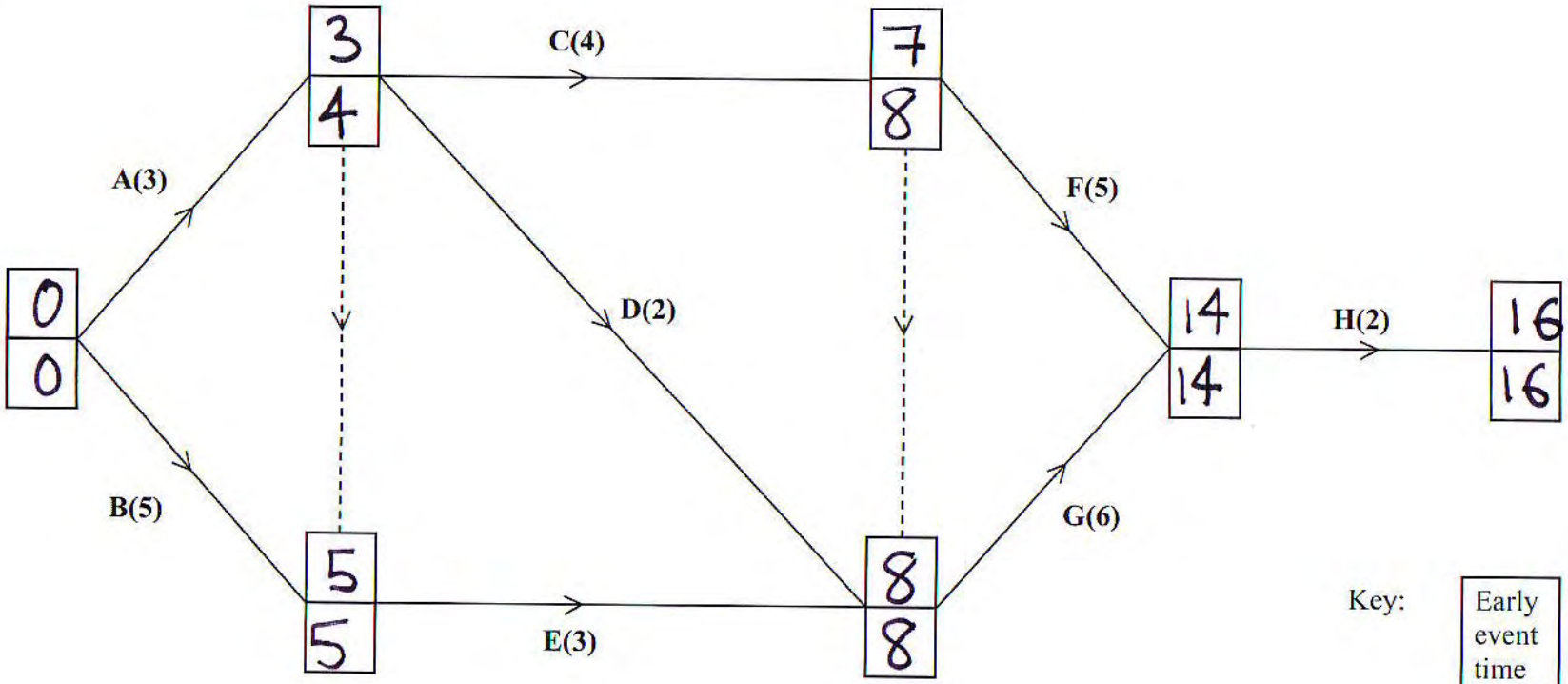
c) see page 7

d) see page 7

e)



(c)



Key:

Early event time
Late event time

(d) Critical activities: B, E, G, H

Length of critical path: 16 days.

PAGE 7
(c)(d)

PAGE 8

7. a) $150x + 300y \leq 1800$

$$x + 2y \leq 12$$

b) $90x + 120y$ must be less than or equal to 900

$90x + 120y \leq 900$

$$3x + 4y \leq 30 \quad \#$$

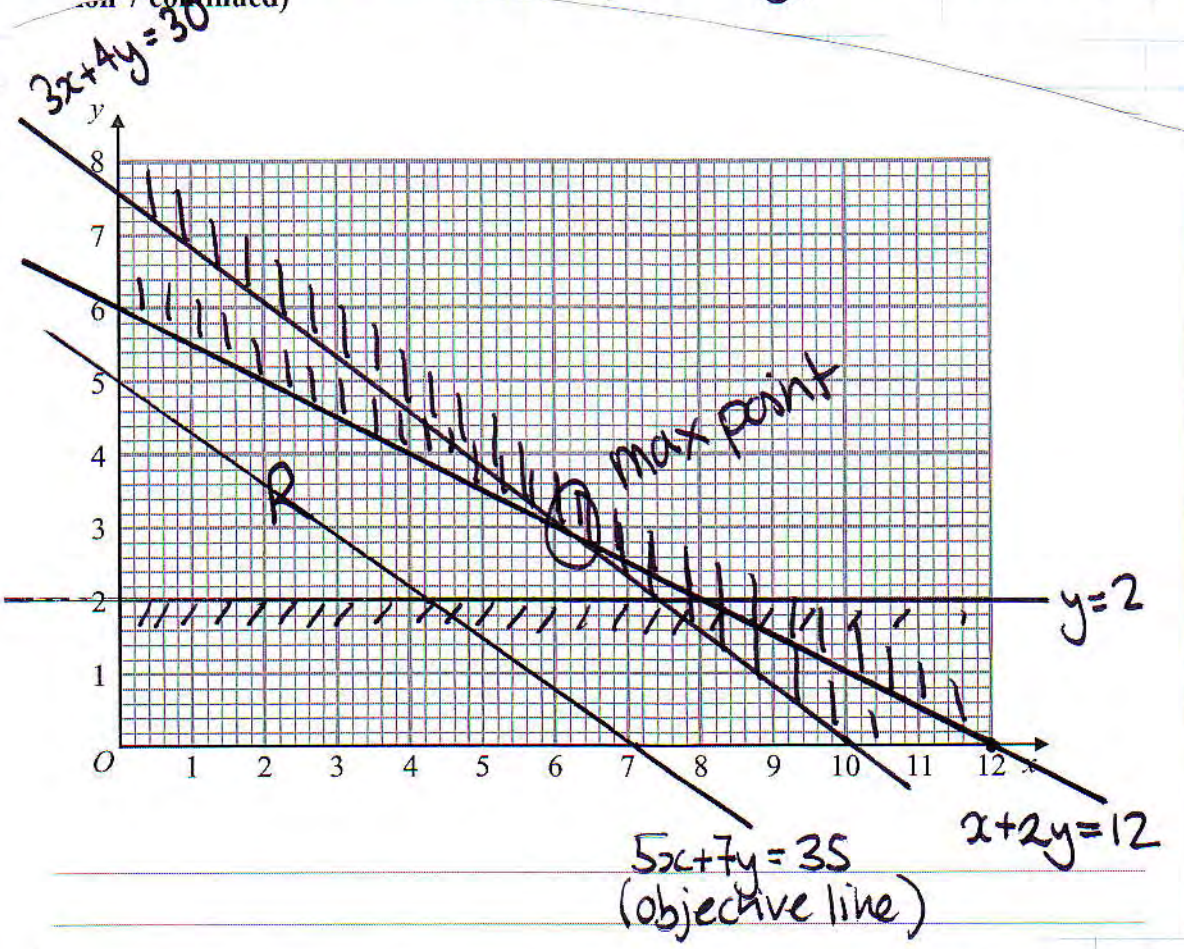
c) You must have 2 or more large cupboards.

d) capacity of $x = C$ $\therefore$ capacity of $y = 1.4C$

$\therefore Cx + 1.4Cy$ = total capacity

maximse $P = 0.2C(5x + 7y)$ $\therefore$ maximise $5x + 7y$ #

e)



f) max at intersection of $x + 2y = 12$ and $3x + 4y = 30$

(6, 3) so 6 std and 3 large.