1

(a)

Minimize u

s.t.

U-(5y1+8y2) >=0

u-(5y1+5y2) >=0

u-(8y1+4y2) >=0

y1+y2=1

y1>=0, y2>=0

U >=44/7

EE 1 P1: (1) 4/7 0 3/7 EP= 44/7 P2: (1) 4/7 3/7 EP= -44/7

(b)

(i)X1=8, x2=6 x3=0 x4=0

(ii)

Max: 2x2+12x4+17

s.t.

x1=(2/3)x2+(5/3)x4+4

x3=(-1/3)x2+(-7/3)x4+2

(iii)

X1=4, x2=0 x3=2 x4=0

(iv)

17

2.

(a)

EE 1 P1: (1) 0 1 0 EP= 5 P2: (1) 0 1 0 EP= 5

EE 2 P1: (2) 0 0 1 EP= 7 P2: (2) 0 0 1 EP= 7

(b)

(c)

Player 1: B (1/2C,1/2D)

Player 2: (1/3a, 2/3b) d

3.

(a)

(b)

(c)

(d)