Tarea #1

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Ejercicio 1

1.1. Datos

- r = 5
- c1 = 2
- c2 = 3
- c3 = 5
- k = 8

Cantidad Optima (Q)

$$Q = \sqrt{2}\sqrt{\frac{c_3 r(c_1+c_2)}{c_1 c_2\left(1-\frac{r}{k}\right)}}$$

Q = 10*sqrt(10)/3

Cantidad Maxima en inventario (S)

$$S = \sqrt{2}\sqrt{\frac{c_2 c_3 r\left(1-\frac{r}{k}\right)}{c_1(c_1+c_2)}}$$

S = 3*sqrt(10)/4

Costo (C)

$$\mathrm{C} = \sqrt{2}\sqrt{\frac{c_1 c_2 c_3 r\left(1-\frac{r}{k}\right)}{c_1+c_2}}$$

C = 3*sqrt(10)/2

Cantidad maxima de faltantes (D)

$$\mathrm{D} = Q - S$$

D = 31*sqrt(10)/12

tiempo 1 (t1)

$$\mathrm{t1} = \sqrt{\frac{rt_2}{k-r}}$$

t1 = sqrt(15)*sqrt(t2)/3

tiempo 2 (t2)

$$\mathrm{t2} = \sqrt{2}\sqrt{\frac{c_2 c_3\left(1-\frac{r}{k}\right)}{c_1 r(c_1+c_2)}}$$

$$\text{t2} = 3^*\text{sqrt}(10)/20$$

tiempo 3 (t3)

$$\text{t3} = \sqrt{2}\sqrt{\frac{c_1 c_3\left(1-\frac{r}{k}\right)}{c_2 r(c_1+c_2)}}$$

$$\text{t3} = \text{sqrt}(10)/10$$

tiempo 4 (t4)

$$\text{t4} = \sqrt{\frac{r t_3}{k-r}}$$

$$\text{t4} = 2^{**}(3/4)^*\text{sqrt}(3)^*5^{**}(1/4)/6$$