Texto

Descripción generada automáticamente

Calendario

Descripción generada automáticamente

**Dual (obtenido del punto anterior):**

Tabla

Descripción generada automáticamente

1. El recurso que me ofrecen está saturado, me sirve.

Dos kg. de lana “N” por el valor marginal es 0.

Un kg. de lana “M” por el valor marginal es 5/2.

Conviene efectuar el cambio ¿Cuánto?

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  | 80 | 80 | 20+A | 36 -2A | -10 |  |  |  |  |
| **Ck** | **Xk** | **Bk** | **A1** | **A2** | **A3** | **A4** | **A5** | **A6** | **A7** | **A8** | **A9** |
| 80 | Y1 | 5/2 | 1 | 0 | 0 | 3/10 | -1/6 | 0 | -1/6 | 0 | 0 |
| 80 | Y2 | 15/4 | 0 | 1 | 0 | 9/20 | -1/4 | 0 | 0 | -1/4 | 0 |
| 20+A | Y3 | 5/2 | 0 | 0 | 1 | -3/2 | 5/6 | 0 | 0 | 5/6 | -5/6 |
| 0 | Y6 | 13/2 | 0 | 0 | 0 | -9/10 | 1/2 | 1 | -5/6 | 4/3 | -4/3 |
| Z = 550 + A\*5/2 | | | 0 | 0 | 0 | -6 +1/2A | -20/3 + 5/6\*A | 0 | -80/6 | -10/3 + A\*5/6 | -50/3 - A\*5/6 |

Como el dual es de mínimo, busco el valor de A tal que todos los Zj-Cj <= 0.

-6 + A/2 <= 0 -> A <= 12

-20/3 + 5/6\*A <= 0 -> A <= 8

-10/3 + 5/6\*A <= 0 -> A <= 4

-50/3 – A\*5/6 <= 0 -> A >= -20

**-20 <= A <= 4**

**Reemplazando en la tabla con A = 4 y obtener una solución alternativa.**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  | 80 | 80 | 24 | 28 | -10 |  |  |  |  |
| **Ck** | **Xk** | **Bk** | **A1** | **A2** | **A3** | **A4** | **A5** | **A6** | **A7** | **A8** | **A9** |
| 80 | Y1 | 5/2 | 1 | 0 | 0 | 3/10 | -1/6 | 0 | -1/6 | 0 | 0 |
| 80 | Y2 | 15/4 | 0 | 1 | 0 | 9/20 | -1/4 | 0 | 0 | -1/4 | 0 |
| 24 | Y3 | 5/2 | 0 | 0 | 1 | -3/2 | 5/6 | 0 | 0 | 5/6 | -5/6 |
| 0 | Y6 | 13/2 | 0 | 0 | 0 | -9/10 | 1/2 | 1 | -5/6 | 4/3 | -4/3 |
| Z = 560 | | | 0 | 0 | 0 | -4 | -10/3 | 0 | -80/6 | 0 | -20 |

Debe entrar Y8 y salir Y3.

Pero Y3 es el valor marginal de la lana “M”, si sale pasa a valer 0. Por lo tanto, el negocio no me conviene a partir de los 4kg recibidos.

Nueva tabla:

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  | 80 | 80 | 24 | 28 | -10 |  |  |  |  |
| **Ck** | **Xk** | **Bk** | **A1** | **A2** | **A3** | **A4** | **A5** | **A6** | **A7** | **A8** | **A9** |
| 80 | Y1 | 5/2 | 1 | 0 | 0 | 3/10 | -1/6 | 0 | -1/6 | 0 | 0 |
| 80 | Y2 | 9/2 | 0 | 1 | 3/10 | 0 | 0 | 0 | 0 | 0 | -1/4 |
| 0 | Y8 | 3 | 0 | 0 | 6/5 | -9/5 | 1 | 0 | 0 | 1 | -1 |
| 0 | Y6 | 5/2 | 0 | 0 | 0 | 3/2 | -5/6 | 1 | -5/6 | 0 | 0 |
| Z = 560 | | | 0 | 0 | 0 | -6 | -10/3 | 0 | -40/3 | 0 | -20 |

1. Podemos obtener un beneficio de $10 (560 – 550).
2. Nos deberían entregar 24kg de lana “M” y 28kg de lana “N”.
3. Armo la tabla directa optima en base a la nueva tabla optima dual.

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  | 10 | 15 | 15 | 18 |  |  |  |  |  |
| **Ck** | **Xk** | **Bk** | **A1** | **A2** | **A3** | **A4** | **A5** | **A6** | **A7** | **A8** | **A9** |
| 0 | X7 | 0 | 0 | 0 | -6/5 | 0 | 0 | -3/10 | 1 | 0 | 0 |
| 0 | X8 | 6 | -3/2 | 0 | 9/5 | 0 | -3/10 | 0 | 0 | 1 | 0 |
| 0 | X9 | 10/3 | 5/6 | 0 | -1 | 0 | 1/6 | 0 | 0 | 0 | 1 |
| 15 | X2 | 40/3 | 5/6 | 1 | 0 | 0 | 1/6 | 0 | 0 | 0 | 0 |
| 18 | X4 | 20 | 0 | 0 | 1 | 1 | 0 | 1/4 | 0 | 0 | 0 |
| Z = 560 | | | 5/2 | 0 | 3 | 0 | 5/2 | 9/2 | 0 | 0 | 0 |

Con el nuevo cambio en los recursos, se fabricará:

13,33 pulóveres B en maquina 1

20 pulóveres C.

Antes del cambio se fabricaba:

13,33 pulóveres B en maquina 1

3,33 pulóveres B en maquina 2

16,66 pulóveres C