

## Good practices INTER\_517CD\_EN

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Description of the problem / exercise: **Initial basic solution of the transportation problem**

Two bread factories make the daily bread in a city. The capacity of the bread factory  $A_1$  on a daily basis is 14 bread boxes, while the capacity of  $A_2$  is 6 bread boxes. The bread is delivered to the three bakeries  $B_1, B_2$  and  $B_3$  in the city. The demand of bakery  $B_1, B_2$  and the  $B_3$  is 6, 4, and 10 bread boxes, respectively. The transportation costs per bread box from  $A_1$  to  $B_1, B_2$  and  $B_3$  are respectively 2, 8, and 4 money units. From  $A_2$  to  $B_1, B_2$  and  $B_3$  are respectively 6, 4, and 2 money units. Determine the initial basic feasible solution of the given transportation problem using the minimal-cost method. Use the Poly-Universe game family for representation of the transportation problem and some stickers where the transportation costs are represented.

One possible representation of the given transportation problem is given in the following figure.



- *Why this exercise is good: It can help memorizing and better understanding of the minimal-cost method.*
- *Which level is recommended: Secondary school of economics, Faculties*
- *School subject(s): Mathematics, Optimization, Financial mathematics, Theory of decision making*