



Congratulations! You passed!

TO PASS 60% or higher

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Fractional Knapsack

TOTAL POINTS 3

1. You have a knapsack of capacity 10kg and three items. First item has weight 20kg and value 20, second item has weight 5kg and value 10. Third item has weight 4 kg and value 20. You want to maximize the total value of the fractions of items that fit into your knapsack. What is the safe move?

1 / 1 point

- ☐ Take the whole second item.
- ☐ Take the whole first item.
- ☒ Take the whole third item.
- ☐ Take 2kg of third item and 8 kg of first item.
- ☐ Take 10 kg of the first item.



Correct

Third item has value 5 per 1kg of weight, while first item has value 1 per 1 kg of weight and second item has value 2 per 1 kg of weight. So, safe move is to take the item with the largest value per 1 kg of weight - the third item. You can take the whole third item, because it fits into the knapsack.

2. What is the next safe move in the previous problem?

1 / 1 point

- ☐ Take the whole third item.
- ☒ Take the whole second item.
- ☐ Take 10 kg of the first item.
- ☐ Take 6 kg of the first item.
- ☐ Take the whole first item.