

# Painting Lampposts

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This is another simple problem from H. E. Dudeney ([1]).



## 103. PAINTING THE LAMP-POSTS.

Tim Murphy and Pat Donovan were engaged by the local authorities to paint the lampposts in a certain street. Tim, who was an early riser, arrived first on the job, and had painted three on the south side when Pat turned up and pointed out that Tim's contract was for the north side. So Tim started afresh on the north side and Pat continued on the south. When Pat had finished his side he went across the street and painted six posts for Tim, and then the job was finished. As there was an equal number of lampposts on each side of the street, the simple question is:

Which man painted the more lampposts, and just how many more?

## My Solution

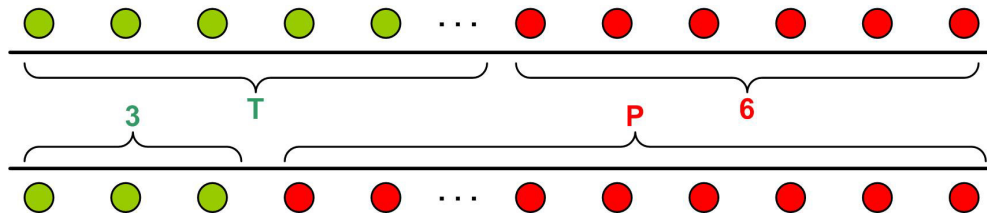


Figure 1

Let  $T$  be the number of lampposts Tim painted and  $P$  the number that Pat painted. Then Figure 1 shows the situation given in the problem, and so

$$T + 6 = 3 + P \Rightarrow T + 3 = P$$

We then have

$$\text{Pat total} = P + 6 = T + 3 + 6$$

$$\text{Tim total} = T + 3$$

so

$$\text{Pat total} = \text{Tim total} + 6$$

## Dudeney Solution

Pat must have painted six more posts than Tim, no matter how many lampposts there were. For example, suppose twelve on each side; then Pat painted fifteen and Tim nine. If a hundred on each side, Pat painted one hundred and three, and Tim only ninety-seven.

Again, Dudeney provides an answer and not a solution, that is, how he got his answer.

## References

[1] Dudeney, Henry Ernest, *Amusements In Mathematics*, 1917

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