

Math Diversion 975

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Source: <https://www.algebra.com/algebra>
Title: Question 722538: A Mixed-Rate Problem
Presenter: Patrick

1 Problem

Jessica has money in two savings accounts. One rate is 10% and the other is 15%. If she has \$450 more in the 15% account and the total interest is \$258, how much is invested in each savings account?

2 Solution

We haven't been told what kind of interest we are dealing with here, so I will assume that the interest is accrued at the end of a single interest-payment cycle.

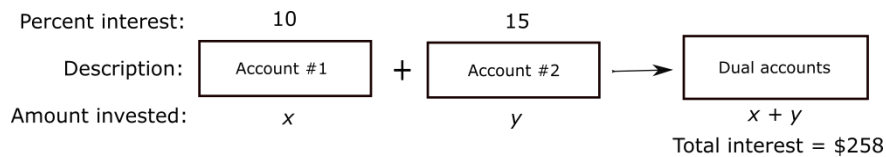


Figure 1. We've also been given the constitutive relation: $y = x + 450$.

Balancing on interest, we have

$$.10x + .15y = 258. \tag{1}$$

We also have the constitutive relation: $y = x + 450$. Solving now for x and y , we get

$$x = \$762, \quad y = \$1212. \tag{2}$$