

# 6.RP Voting for Three, Variation 3

Alignments to Content Standards: 6.RP.A.3

## Task

John, Marie, and Will all ran for 6th grade class president. The ratio of votes for John to votes for Will was two to one. Marie got exactly the average number of votes for the three of them. John got more votes than Marie. What fraction of the total votes was this difference?

## IM Commentary

This is the last problem of seven in a series about ratios set in the context of a classroom election. Since the number of voters is not known, the problem is quite abstract and requires a deep understanding of ratios and their relationship to fractions.

[Edit this solution](#)

## Solution

Since we do not know how many votes there were in all, fractions must be used to solve the problem. It is given that Marie got  $\frac{1}{3}$  of the votes, so there were  $\frac{2}{3}$  of the votes left after Marie's share. The remaining votes were shared by John and Will at a ratio of 2 to 1, so  $\frac{2}{3}$  of those remaining votes went to John and  $\frac{1}{3}$  went to Will. Calculating John's votes:

$$\frac{2}{3} \times \frac{2}{3} = \frac{4}{9} \text{ of the votes went to John}$$

The difference between the fraction of votes given to John and to Marie

$$\frac{4}{9} - \frac{1}{3} =$$

$$\frac{4}{9} - \frac{3}{9} = \frac{1}{9} \text{ more votes to John}$$



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