6.RP Voting for Two, Variation 4

Alignments to Content Standards: 6.RP.A

Task

John and Will ran for 6th grade class president. John got two votes for every vote Will got. It was necessary to get more than half the votes to get elected. What fraction of the votes more than half did John get?

IM Commentary

This is the fourth in a series of tasks about ratios set in the context of a classroom election. What makes this problem interesting is that the number of voters is not given. This information isn't necessary, but at first glance some students may believe it is. On the other hand, students that solved Voting for Two, Variation #3 by recognizing it can be solved as a difference of fractions will be able to apply the same strategy here. Not knowing the number of voters makes the problem more abstract.

Note that for the first three variations in this series, students could use ratio tables instead of the more abstract approaches illustrated for each one. Here is the first time that students will have to go beyond a ratio table to solve it. Students who have had a chance to see the connection between ratio tables and other solution methods will have an easier time making this transition.

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Solution

One way to think about the problem is to realize that John gets 2 votes for every 1 of

Will's votes. Thus, John gets 2 out of every 3 votes or $\frac{2}{3}$ of the votes. The difference between 2/3 of the votes and 1/2 of the votes is:

$$\frac{2}{3} - \frac{1}{2} =$$

$$\frac{4}{6} - \frac{3}{6} = \frac{1}{6}$$

So, the answer is $\frac{1}{6}$ of the votes.