

# 6.RP Voting for Two, Variation 3

Alignments to Content Standards: 6.RP.A

## Task

John and Will ran for 6th grade class president. There were 36 students voting. John got two votes for every vote Will got. It was necessary to get more than half the votes to get elected. How many more votes than half did John get?

## IM Commentary

This problem, the third in a series of tasks set in the context of a class election, is more than just a problem of computing the number of votes each person receives. In fact, that isn't enough information to solve the problem. One must know how many votes it takes to make one half of the total number of votes. Although the numbers are easy to work with, there are enough steps and enough things to keep track of to lift the problem above routine.

It is worth noting that these numbers have units: votes. Helping students build the habit of carefully tracking the units in the context of simple problems will help them prepare for future situations that involve more complex and multiple types of units.

One final note: as with variations 1 and 2, this task can be solved with a ratio table and a modest amount of additional reasoning. However, the next task in the series requires students to go beyond ratio tables. This would be a good task type to help students see the connection between ratio tables and more abstract approaches to solving the problem.

## Solutions

[Edit this solution](#)

### **Solution: Computing votes**

The step-by-step way to solve this problem is to compute the number of votes John receives and compare it to the one half of the total votes. To do this, the student must determine 1) the number of votes for John, 2) the number equal to  $1/2$  of the votes, and 3) the difference between these two numbers.

Since the votes are in three equal parts, two for John and one for Will:

$$36 \div 3 = 12 \text{ votes in each equal part of the ratio}$$

$$2 \times 12 = 24 \text{ total votes for John}$$

$$36 \div 2 = 18 \text{ votes in each half of the total votes}$$

$$24 - 18 = 6 \text{ more votes than half for John.}$$

[Edit this solution](#)

### **Solution: Applying fractions**

There is another way to solve the problem that may be more difficult for some students to see because it is more abstract.

Given that John received  $2/3$  of the votes and wanting to know how much more that is than  $1/2$  of the votes, one can write and solve the following equation:

$$2/3 - 1/2 = 1/6 \text{ of the votes.}$$

$$1/6 \times 36 = 6 \text{ votes, which answers the question.}$$



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