

Elvira's Equations

A Solidify Understanding Task

(Note: This task refers to the same set of variables as used in *Serving Up Symbols*)

Elvira, the cafeteria manager, has written the following equation to describe a cafeteria relationship that seems meaningful to her. She has introduced a new variable A to describe this relationship.



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$$A = \frac{S}{CP}$$

1. What does A represent in terms of the school and the cafeteria?
2. Using what you know about manipulating equations, solve this equation for S . Your solution will be of the form $S = \text{an expression written in terms of the variables } A, C \text{ and } P$.
3. Does your expression for S make sense in terms of the meanings of the other variables? Explain why or why not.
4. Now solve the above equation for C and explain why the solution makes sense in terms of the variables.

Here is another one of Elvira's equations.

$$T_s = \frac{S(N_e + N_s + N_b)}{i}$$

5. What does T_s represent in terms of the school and the cafeteria?
6. Using what you know about manipulating equations, solve this equation for S .
7. Does your expression for S make sense in terms of the meanings of the other variables? Explain why or why not.
8. Now solve the above equation for N_e and explain why the solution makes sense in terms of the variables.

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