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.

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

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 = an expression written in terms of the variables A, C 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.