

Name: _____ Date: _____ Period: _____

Forget the Formula

Mathematical Goals

- Rearrange formulas to highlight a quantity of interest.
- Create equations in two variables to represent relationships.
- Understand how the change in one variable affects the other variable in a given situation.
- Write and graph an equation to represent a linear relationship.
- Extend the concepts used in solving numerical equations to rearranging formulas for a particular variable.

Common Core State Standards

MCC9-12.A.CED.2 Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.

MCC9-12.A.CED.3 Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or non-viable options in a modeling context.

MCC9-12.A.CED.4 Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations.

MCC9-12.N.Q.1 Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.

MCC9-12.N.Q.3 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.

MCC9-12.A.SSE.1 Interpret expressions that represent a quantity in terms of its context.

MCC9-12.A.SSE.1a Interpret parts of an expression, such as terms, factors, and coefficients.

Standards for Mathematical Practice

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
8. Look for and express regularity in repeated reasoning.

Mrs. Howell, your science teacher, overheard two of her students talking about how to convert temperatures from Celsius to Fahrenheit and vice versa. The students said they knew there was a formula, but they did not remember what it was. Mrs. Howell remarked to you that if they just knew about the freezing point and boiling point of water for each temperature scale, the formula could easily be “rediscovered.” Mrs. Howell has asked you to write a written explanation for how to find the formula, showing all your calculations. Mrs. Howell also wants you to include an explanation of each of the parts of the formula. (Don’t forget to include the formula for Celsius to Fahrenheit and the formula for Fahrenheit to Celsius.)