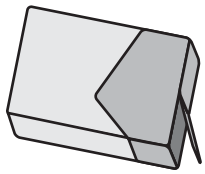
THE TIC-TAC EQUATION



When teaching rates and slopes involving fractions, a useful and fun tool is "The Tic-Tac Equation." The following equation represents the number of kisses, K, that you will receive at the end of a date after eating the number of Tic-Tac candies, t.

$$K = (3/2)t + 1$$

Typical questions to be asked are: how many kisses will you receive after eating a given number of Tic-Tacs, and how many candies will it take to receive a desired number of kisses? Students are usually able to answer these questions as long as the number of Tic-Tacs is an even number, or if the number of desired kisses is one more than a multiple of three. In each case, the answer comes out a whole number. But if the answer is not a whole number, then the students must deal with the issue of getting only half a kiss or eating a third of a Tic-Tac.

When asked, "How do you get only half a kiss?" the students often respond humorously with statements like, "It was only a quick pucker" or "You only get a peck on the cheek" or "You closed your eyes and missed." There is always an optimist in the group that responds, "The half is slipping in your tongue." That's when you stop and move onto the next question, "What does this equation say?"

With a small degree of explanation, the students will see that a person gets 3 kisses for every 2 Tic-Tacs that they eat, not necessarily one and a half kisses for every candy. And let's not forget the obligatory ONE kiss at the end of the date, whether you eat a Tic-Tac or not.

Revisiting this problem in different forms helps students better understand the concept of slope and y-intercept, as well as discrete functions and graphs.