Lesson 2.1.2: Creating Linear Inequalities in One Variable

Warm-Up 2.1.2

Read the scenario, write an equation that models the situation, and then use the equation to answer the questions that follow.

> Two people can balance on a seesaw even if they are different weights. The balance will occur when the following equation, $w_1d_1 = w_2d_2$, is satisfied or true. In this equation, w_1 is the weight of the first person, d_1 is the distance the first person is from the center of the seesaw, w_2 is the weight of the second person, and d_2 is the distance the second person is from the center of the seesaw.

1. Eric and his little sister Amber enjoy playing on the seesaw at the playground. Amber weighs 65 pounds. Eric and Amber balance perfectly when Amber sits about 4 feet from the center and Eric sits about $2\frac{1}{2}$ feet from the center. About how much does Eric weigh?

2. Their little cousin Aleah joins them and sits right next to Amber. Can Eric balance the seesaw with both Amber and Aleah on one side, if Aleah weighs about the same as Amber? If so, where should he sit? If not, why not?