**CCM8 Systems of Equations: Writing Equations and Solving with Tables**

When solving a system of equations, it is often helpful to write equations that can model the situations and then use those equations to make data tables. To solve the system, you have to compare the tables and look for points that the equations have in common.

Examples

Use tables to find the solution to each system of equations.

1. Two hot air balloons begin flying at the same time. One of the hot air balloons starts on the ground and rises at a rate of 3 meters per second. The other hot air balloon is on a platform that is 8 meters above the ground and rises at a rate of 2 meters per second. How long will it take for the hot air balloons to reach the same height?
2. In PE class the students have to run laps around the track for exercise. Billy doesn’t like running so he decides to walk. Billy walks at an average rate of 3 miles per hour (0.05 miles per minute). Jimmy starts running once Billy has already walked ½ of a mile and Jimmy runs at an average rate of 6 miles per hour (0.1 miles per minute). How long will it take for Jimmy to catch up to Billy?

Independent Practice

Use tables to find the solutions to each system of equations.

1. Jill and Jeff are both saving their money. Jill already has $55 in her bank account and she can earn $25 a week for doing yard work for her neighbors. Jeff has $80 in his bank account and earns $20 a week for helping his grandmother with her household chores. How long will it take for Jill and Jeff to have the same amount of money?
2. Frank buys two different plants. When he bought the plants, plant A was 2cm tall, and plant B was 5cm tall. Plant A grew at a rate of 1.5cm per day and plant B grew at a rate of 1cm per day. How long does it take for the two plants to reach the same height?