3.1.4 How can I use systems?
....
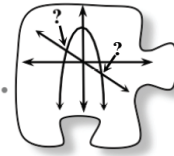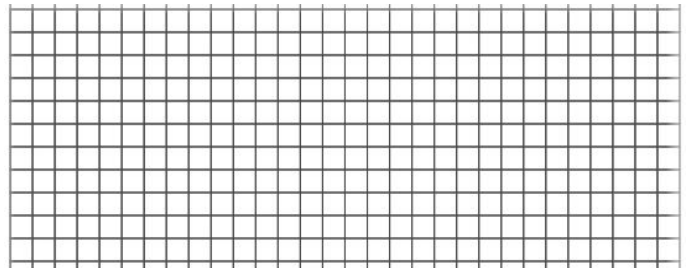Using Systems of Equations to Solve Problems

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#56 HOW TALL IS HAROLD?

Jamal and Dinah are still eating lunch as they come into math class. Someone has left a book on the floor and they both trip. As they each hit the floor, the food they are carrying flies across the room directly toward Harold, who is showing off his latest dance moves.

As Jamal and Dinah watch in horror, Jamal's cupcake and Dinah's sandwich splat right on top of Harold's head! Jamal's cupcake flies on a path that would have landed on the floor 20 feet away from him if it had not hit Harold. Dinah's sandwich flies on a path that would have landed on the floor 24 feet away from her if it had not hit Harold. Jamal's cupcake flies 9 feet high, while Dinah's sandwich reaches a height of 6 feet before hitting Harold.

Sketch the situation:	Graph the situation and scale by ones:
Jamal's Equation (cupcake):	**Dinah's Equation (sandwich):**

#56 Continued

Solve Using a Table
How tall is Harold? Show your solution using tables and algebra

Jamal's Cupcake

Dinah's Sandwich

Solve Using Algebra

What assumptions did you make in modeling this situation?