

PROBLEM-OF-THE-DAY: ALGEBRA 1**WEEK:** September 17 to September 21 **DAY:** Tuesday

RISD Objective: Given a word problem that involves an initial condition and a constant rate of change, students will write a first-degree equation which models the situation and use it to solve the problem.

PROBLEM #21

One hot air balloon has an altitude of 150-ft and is rising at 15 feet per second. Another hot air balloon has an altitude of 447-ft and is descending at 12 feet per second. After how many seconds will the balloons be at the same height? Write an equation that models the information in the problem and solve it to find the answer.

MODEL SOLUTION #21

Let x = the number of seconds

$150 + 15x$ = the height of the first balloon

$447 - 12x$ = the height of the second balloon

$$150 + 15x = 447 - 12x$$

$$150 + 27x = 447$$

$$27x = 297$$

$$x = 11$$

The balloons will be at the same height in 11 seconds.