

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

**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.

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**PROBLEM #23**

The population of Roswell was 45,302 in June of 2006. It is estimated that the population increases by 38 people each month. If this increase remains steady, when will Roswell's population reach 48,000? Write an equation that models the information in the problem and solve it to answer the question.

**MODEL SOLUTION #23**

**Let  $x$  = number of months beyond June 2006**

$$45302 + 38x = 48000$$

$$38x = 2698$$

$$x = 71$$

**In 71 months, Roswell's population will reach 48,000. This will be in May 2012.**