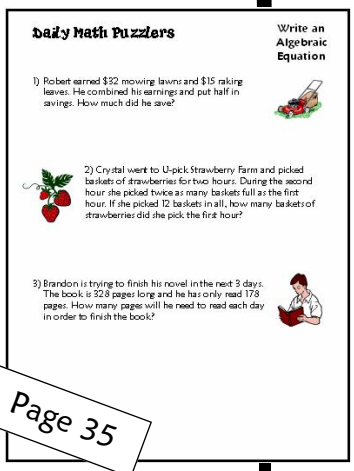
Steps and Strategies Intro

Teaching Strategies

Day 3 - Write an Algebraic Equation


Daily Math Puzzlers

Write an Algebraic Equation

1) Robert earned $32 mowing lawns and $15 raking leaves. He combined his earnings and put half in savings. How much did he save?

2) Crystal went to U-pick Strawberry Farm and picked baskets of strawberries for two hours. During the second hour she picked twice as many baskets full as the first hour. If she picked 12 baskets in all, how many baskets of strawberries did she pick the first hour?

3) Brandon is trying to finish his novel in the next 3 days. The book is 328 pages long and he has only read 178 pages. How many pages will he need to read each day in order to finish the book?

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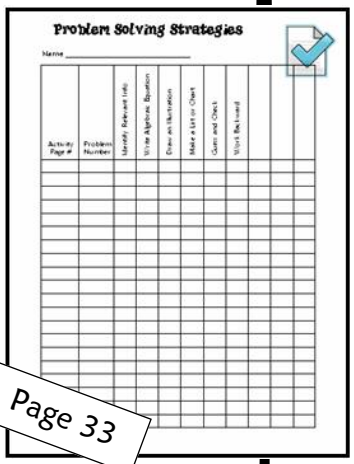
Writing a number sentence or algebraic equation isn't really a problem-solving strategy at all. It's just a way to record mathematically how you solved the problem. However, you'll want to introduce or review this topic early because students at this level should probably be writing number sentences or algebraic equations for most of the problems they solve in math. This might also be a good time to introduce the Problem Solving Strategies checklist as a way of recording the different methods that are used to solve each problem.


Problem Solving Strategies

Name _____

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Middle grade students should be able to write simple number sentences with little difficulty, but writing algebraic equations that include parentheses can be tricky. Writing an equation for a multi-step problem is challenging because of those pesky "Order of Operation" rules. Before you begin, you may want to review the PEMDAS acronym (Parentheses, Exponents, Multiplication or Division, and Addition or Subtraction) which outlines the correct order of operations.

Remind students that even for multi-step problems, algebraic equations should be written in a single horizontal line using parentheses to show which steps to complete first. For a two-step problem, you might have them start by writing two separate numbers sentences and then combining them into one sentence which can be solved using the PEMDAS rules. For example, in Problem #1, they could write $\$32 + \$15 = x$ and $\$47 \div 2 = x$. Finally, they can combine those to read $(\$32 + \$15) \div 2 = x$. Providing multiple opportunities to practice will help students develop this skill.

Practice Problem Answers:
#1 $(\$32 + \$15) \div 2 = x$, $x = \$23.50$
#2 $x + 2x = 12$, $x = 4$ baskets
#3 $(328 - 178) \div 3 = x$, $x = 50$ pages a day

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