6.NS Buying Gas

Alignments to Content Standards: 6.NS.B.3

Task

Sophia's dad paid $43.25 for 12.5 gallons of gas. What is the cost of one gallon of gas?

IM Commentary

There are two aspects to fluency with division of multi-digit numbers: knowing when it should be applied, and knowing how to compute it. While this task is very straightforward, it represents the kind of problem that sixth graders should be able to recognize and solve relatively quickly. Easily recognizing contexts that require division is a necessary conceptual prerequisite to more complex modeling problems that students will be asked to solve later in middle and high school.

This task also has a natural carryover to work with ratios and rates, so students should also be building connections between these kinds of division problems and finding unit rates.

Solution

Sophia's dad paid $43.25 for 12.5 gallons of gas. If we think of a gallon of gas as a group, we know that the cost of 12.5 groups is $43.25. The question we are asked to answer is, “What is the cost of one gallon?” which is the same as asking, “How many dollars in one group?” To find the answer to this question we must evenly distribute the $43.25 amongst the 12.5 groups. This is the meaning of $43.25 \div 12.5$. So the cost of one gallon
of gas is $43.25 \div 12.5 = 3.46$. 