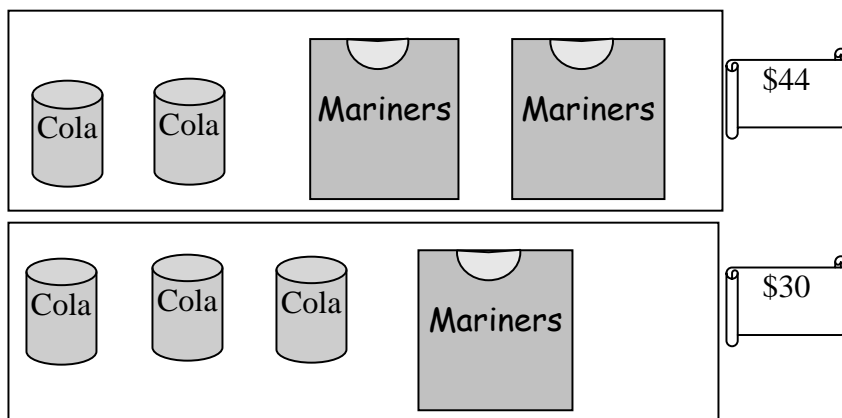


High School, CIM benchmark—Algebraic Relations

Core Math: Systems of equations. Being able to represent and solve problems with more than one variable. Understanding that the variables in both equations must have the same value and that there is only one possible value for each variable that will make both equations true. Understanding the use of systems of equations to solve problems with more than one variable.

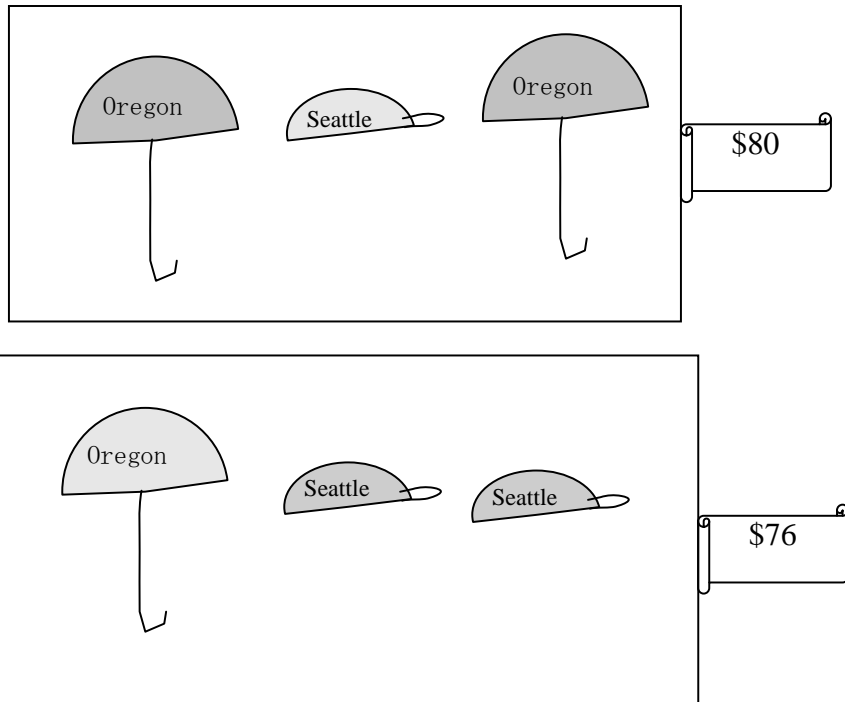
Context: Algebra—prior to formal instruction in solving systems of equations (task 1 and 2), Algebra 2—prior to review of systems of equations and systems of equations with 3 variables (task 2 and 3)

Task 1



1. Show how to find the cost of one t-shirt. Include any sketches that you find useful.
2. How much is a drink? Show your work, including sketches.

Task 2\*

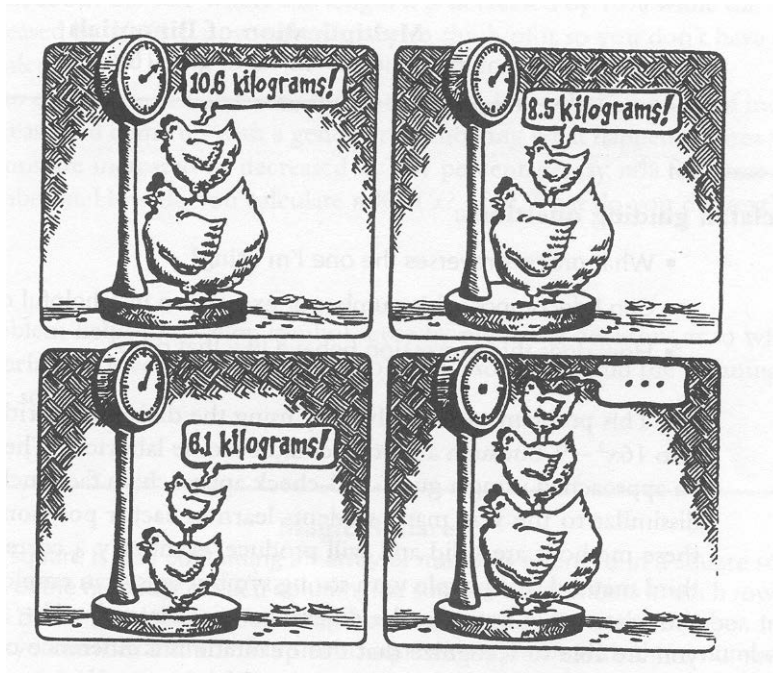


DRAW SKETCHES AND SHOW YOUR WORK FOR ALL PARTS!

1. Without calculating the price of each, determine whether the cap or the umbrella is more expensive. What is the difference in price between the cap and umbrella?
2. Use the two pictures above to make a new combination of umbrellas and caps. Sketch the combination and find its price.
3. Make a group of only caps or only umbrellas. Then find its price.
4. What is the price of one umbrella? one cap?

Task 3\*

3 chickens were weighed in pairs. The first pair weighed in a 10.6 kg. The second pair weighed 8.5 kg and the third pair weighed 6.1 kg. How much would the scale read if all three chickens were weighed at the same time? How many kg does each chicken weigh? Show any sketches and explain how you got your answers.



\*adapted from Fostering Algebraic Thinking by Mark Driscoll