

Puzzle of the Week

Pan Balance With Weights – 1

A pan balance tells you when its two sides are carrying the same amount of weight or whether one side is heavier than the other.

THE CHALLENGE: You have a very large collection of 4-ounce and 7-ounce weights to use on one side of a pan balance. By using two 4-ounce weights, you can measure an 8-ounce item. Which weights can you weigh exactly and which ones can't you weigh exactly?



EXPLORATION: How do your results change if you have 5- and 9-ounce weights? How about other pairs of weights that have no common divisor larger than 1? Can you find any patterns in your data?