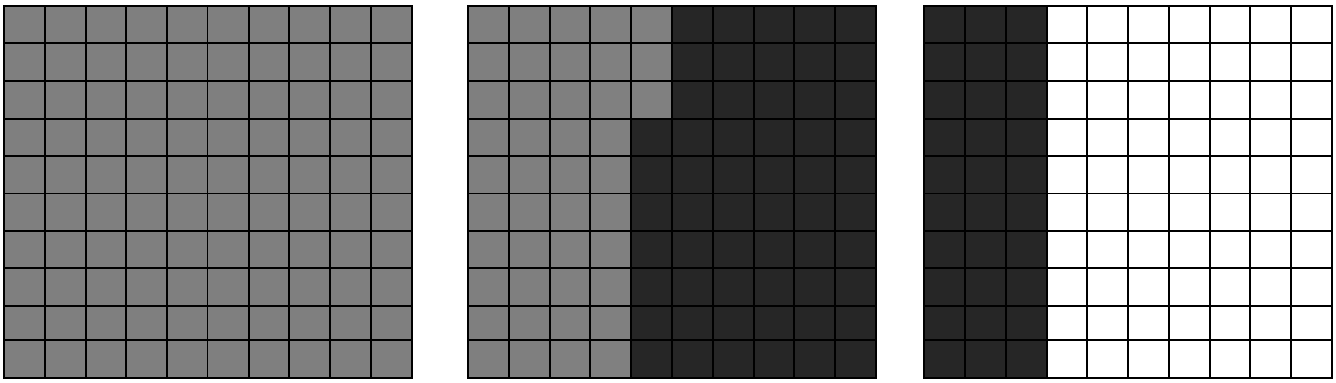
Math Strategies for Adding and Subtracting Decimal Numbers

Base-10 Grids

The example below shows 1.43 + 0.87 using base-10 grids.

First, estimate and determine about how many 10 x 10 grids you will need. You can round 0.87 to 1. One plus 1.43 is about 2.5 so you will need at least three 10 x 10 grids.

You can use two different colors to represent the two different addends. Shade 1.43 with one color and 0.87 with another color. Add all of the shaded amounts together.



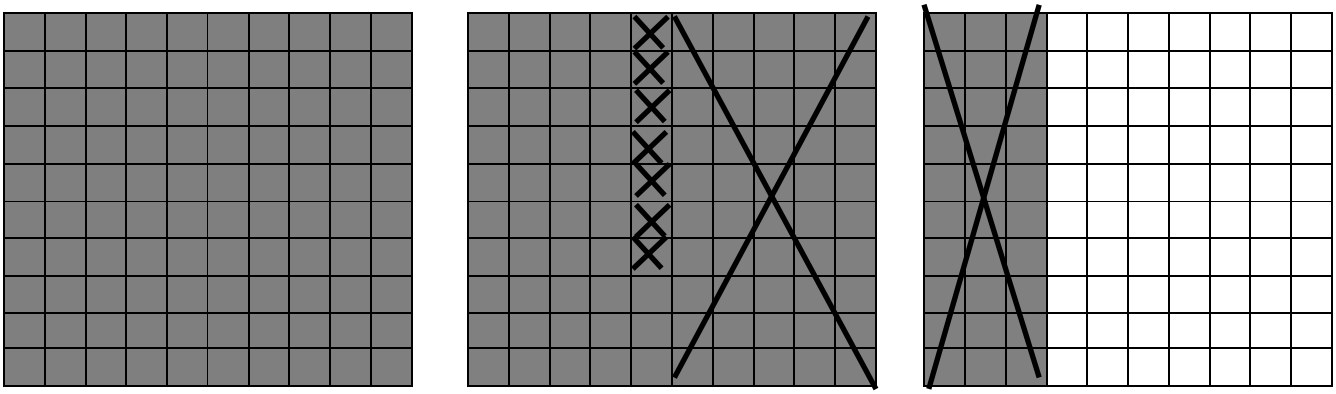
1.43 + 0.87 = 2.3 or 2.30

The example below shows 2.3 - 0.87 using base-10 grids.

First, determine about how many 10 x 10 grids you will need. The first addend determines how many grids you will need. Since it's 2.3, you will need three grids.

Shade only the first addend, which is 2.3.

Next, cross out 0.87 and determine how much is still left.



2.3 - 0.87 = 1.43

Open Number Line (Adding Up)

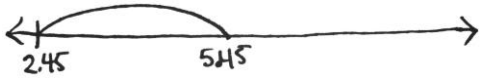
The example below shows 5.63 – 2.45 using the open number line.

First, you need to draw a blank number line to record your jumps.

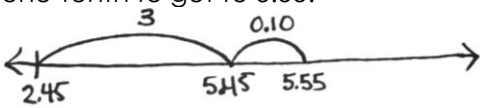
Then you need to plot the smaller number, 2.45, on the left.

To subtract 2.45 from 5.63, you need to count up to get to 5.63.
You can do that by making jumps of 1s, tenths, hundredths or other friendly numbers.

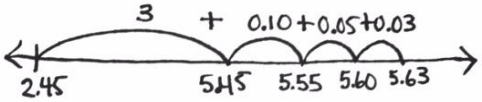
For example, you can make 1 jump of 3 to land on 5.45.



Next, you can make a small jump of one-tenth to get to 5.55.



After that, you can make a jump of 5 hundredths to land on 5.60. Then make a jump of three-hundredths to land on 5.63.



Now you need to add the jumps together to get your answer.

3 + 0.10 + 0.05 + 0.03 = 3.18

So, 5.63 – 2.45 = 3.18

This is a very flexible strategy. Different amounts of jumps can be made depending on what you know.
Try making the least amount of jumps to solve the problem efficiently.

Decomposing Numbers

The example below shows 5.63 + 2.45 using Decomposing Numbers

Decomposing numbers to smaller parts helps to add or subtract mentally.
For, 5.63 + 2.45, you can decompose the numbers the following way:

5.63 + 2.45
(5 + 0.60 + 0.03) + (2 + 0.40 + 0.05)

Now, you can combine smaller parts to make friendly numbers. In this case, you can mentally add 0.60 with 0.40 to get one. Next, you can mentally add the one with five and two to get eight. Then, you can add the 0.03 with 0.05 to get 0.08. Finally, you can mentally add 0.08 with 8 to get 8.08

5.63 + 2.45
(5 + 0.60 + 0.03) + (2 + 0.40 + 0.05)
0.60 + 0.40 = 1
1 + 5 + 2 = 8
0.03 + 0.05 = 0.08
8 + 0.08 = 8.08

So, 5.63 + 2.45 = 8.08