



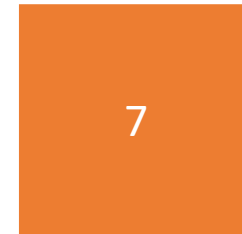
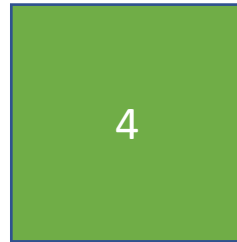
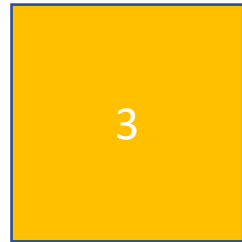
Pairwise Addition Investigation

Required Assignment, Week 8, PEP, 2nd Grade. Assignment Due on 6/18

The problems get harder as you solve more levels. Try and solve as many levels as you can 😊
Make sure to share your thinking!

Level 1:

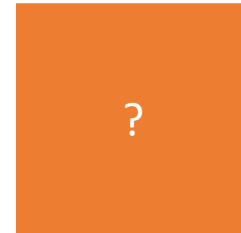
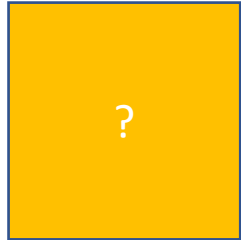
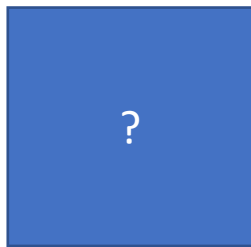
Charlie chose five numbers: 2, 3, 4, 7, 10.



He added together pairs of numbers from his set, and got the following totals: 5, 7, 9, 10, 11, 12.

Can you find the totals that Charlie has missed?

Level 2: Choose your own set of five numbers, and work out all the possible sums of pairs.



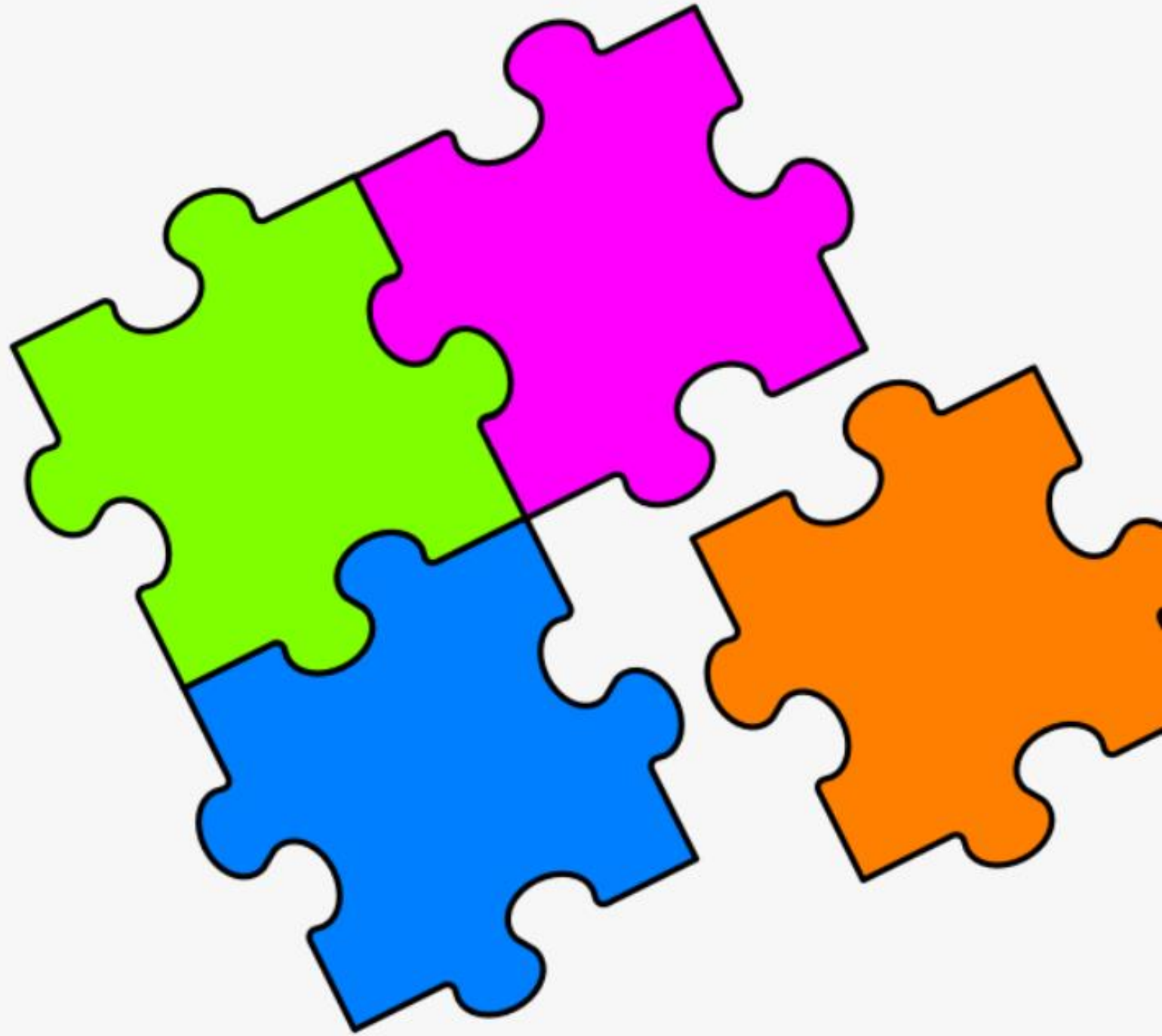
How do you know you've found them all?

How many pair sums would there be if you started with six numbers?

Or seven numbers?

Is there a rule you can come up with?

Level 3:



Level 3:

- Can you find a link between the total of any set of five numbers, and the total of their pair sums?
- What if you started with a set of six numbers? Or seven?



Optional Bonus Question!

**What happens when you choose to add sets of three numbers instead of pairs?
How do the number of possible sums change when you have a total of 4 numbers? 5
numbers? 6 numbers? Is there a rule you can find?**