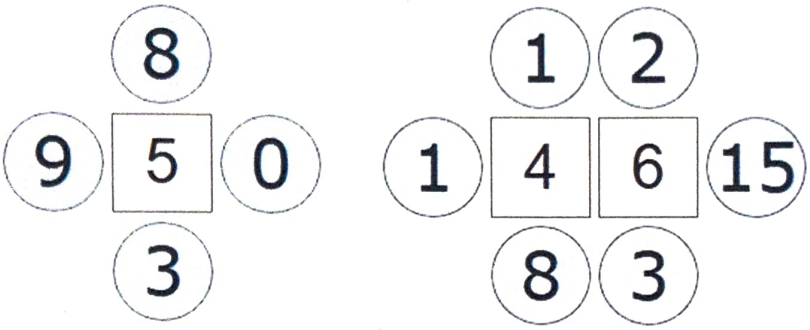
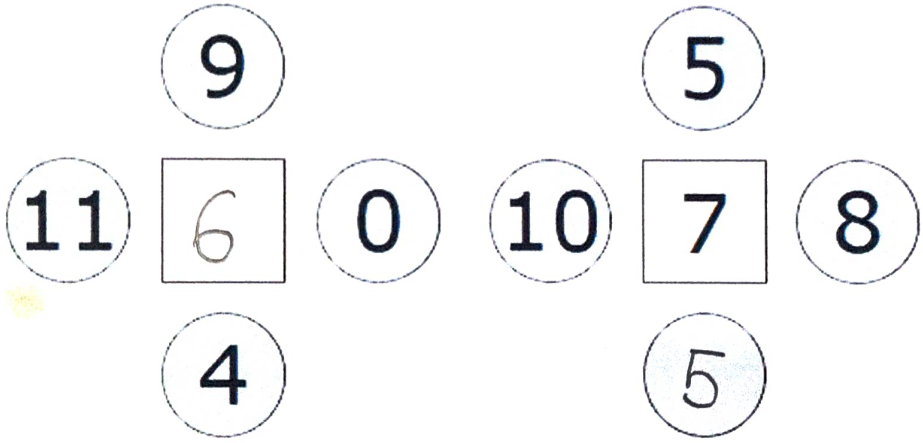
Hunting for Averages

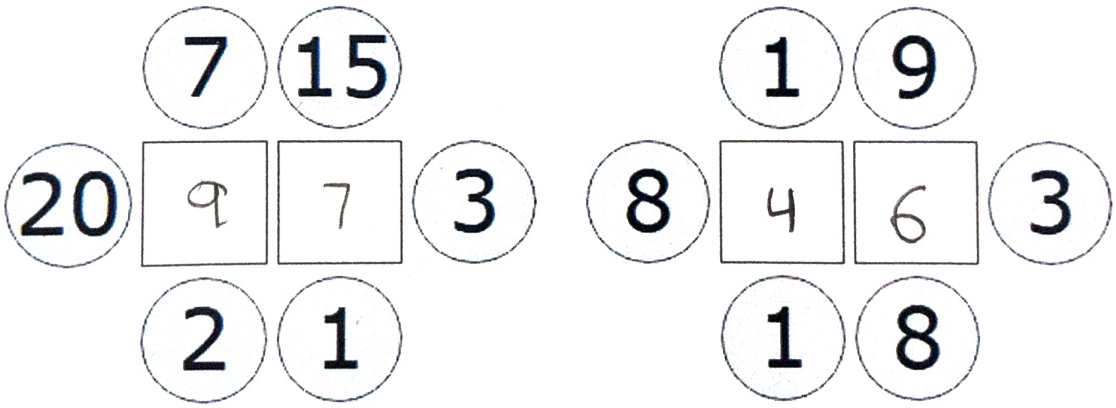
In these challenges, the number in each square is the average (mean) of the four numbers surrounding it.



Can you explain why the numbers 5, 4 and 6 belong in the squares in these two examples?

Your challenge is to find the missing number in each of the grids below.





Can you create a similar problem for someone else to solve (with whole number solutions)?

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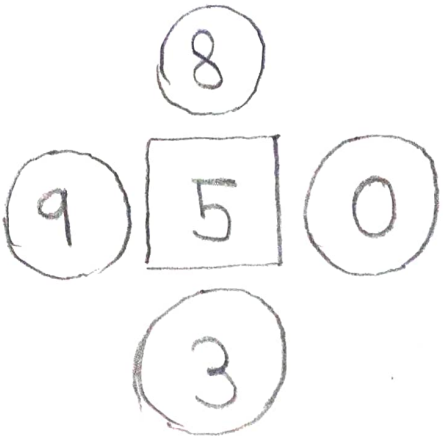
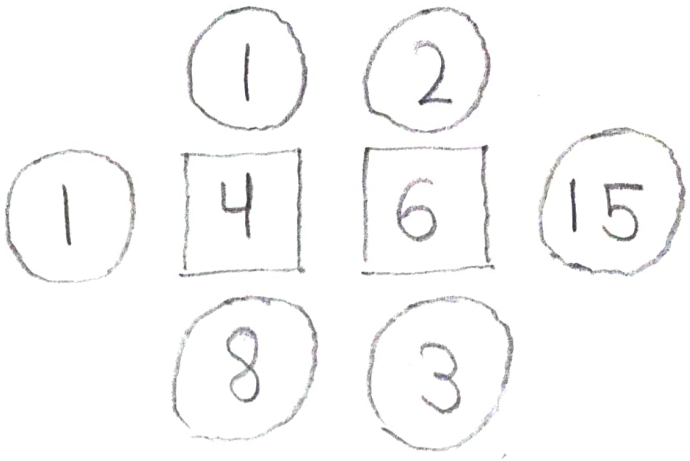
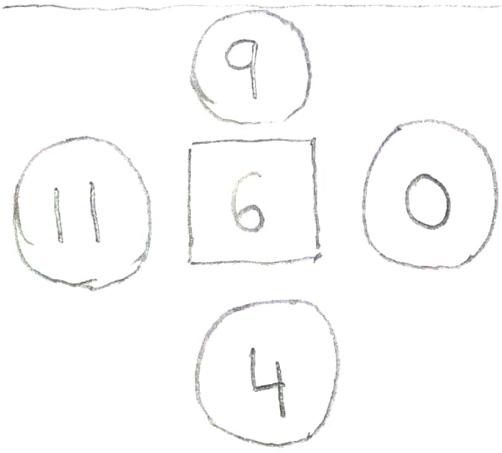


5 is the average of
8+9+3+0, ⇒ 20 ÷ 4 = 5



4 is the average of
8+1+1+6 ⇒ 16 ÷ 4 = 4

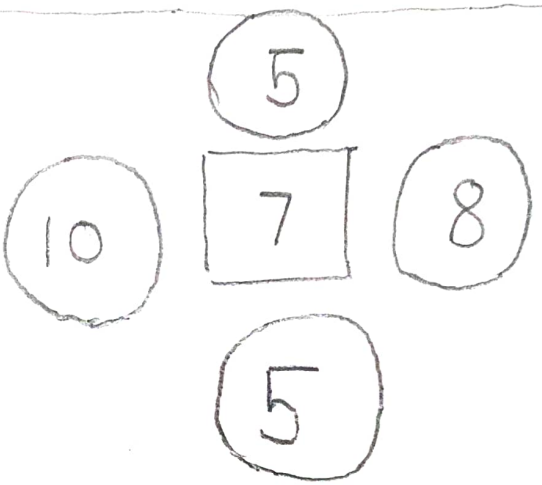
6 is the average of
15+3+4+2 ⇒ 24 ÷ 4 = 6



$$\text{Avg} = \frac{11+9+4+0}{4}$$

$$= \frac{24}{4}$$

$$= 6$$



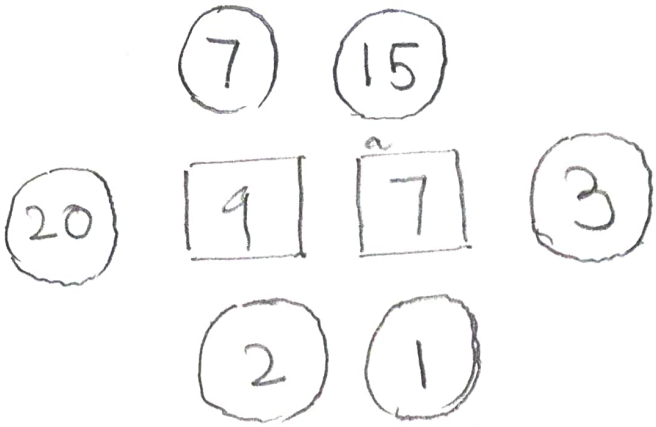
$$\text{Avg} = \frac{10+5+8+a}{4}$$

Average given :- 7

$$7 \times 4 = 28$$

Missing number = 28 − 23

$$= 5$$



Avg for the 1st square is

$= \frac{20+7+2+a}{4}$

a must be such a number the total should be divisible by 4

Put $a=3$ in the above avg equation

$Avg = \frac{20+7+2+3}{4}$

$= \frac{32}{4}$

$= 8$

If we put $a=3$, the average is 8 but, it is not satisfying the other half of the problem.

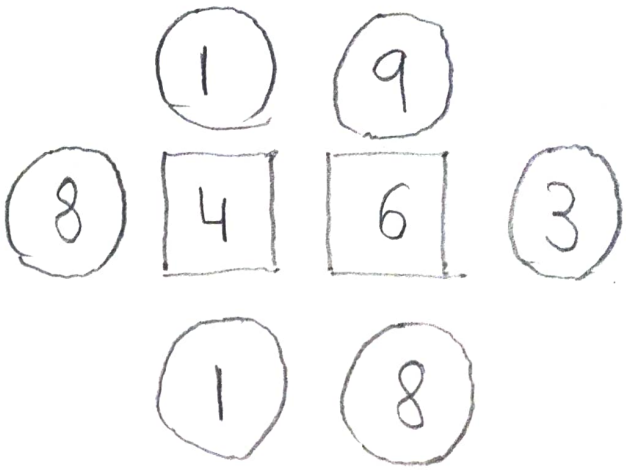
So we take $a=7$

$Avg = \frac{20+7+2+7}{4}$

$= \frac{36}{4}$

$Avg = 9$

Now $a=7$, $Avg=9$ satisfies both parts of the problem



Avg for the first square is $= \frac{8+1+1+a}{4}$

Put $a=6$

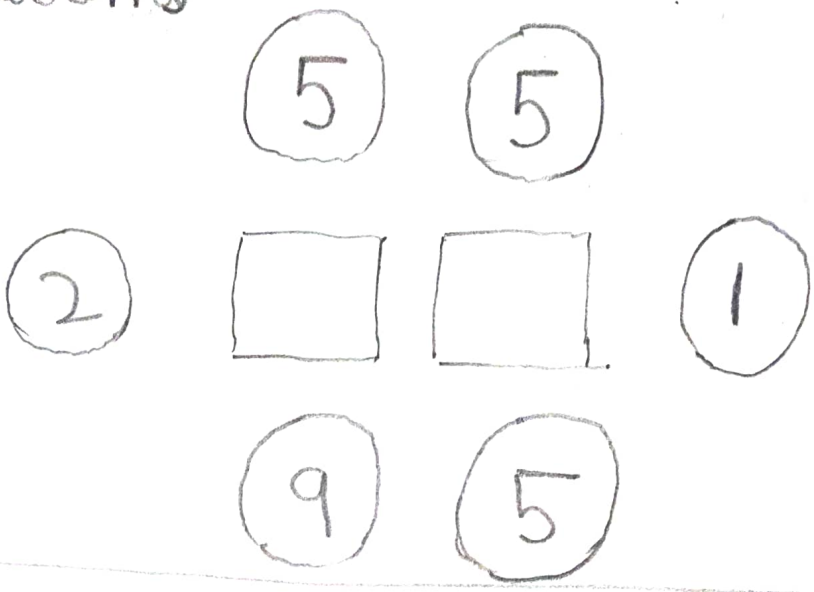
$= \frac{8+1+1+6}{4} = 16/4$

$= 4$

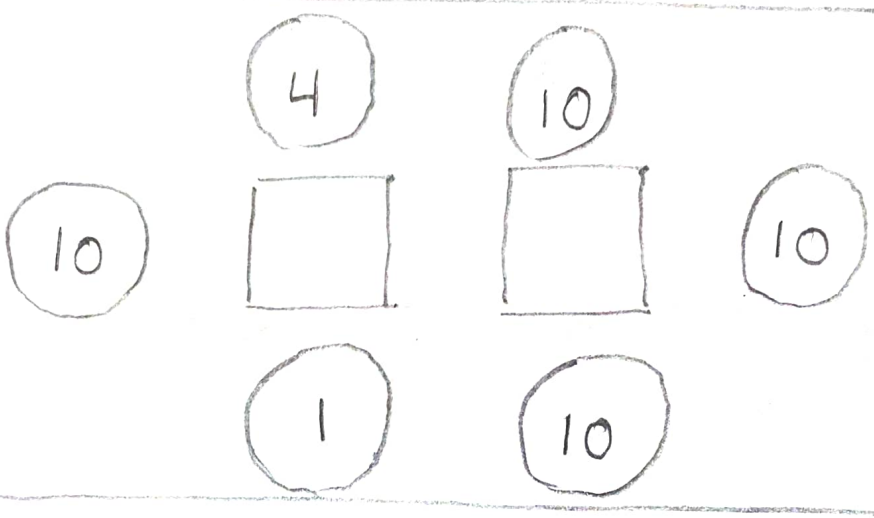
Now $a=6$ $Avg=4$ satisfies both parts of the problem

Similar Problems

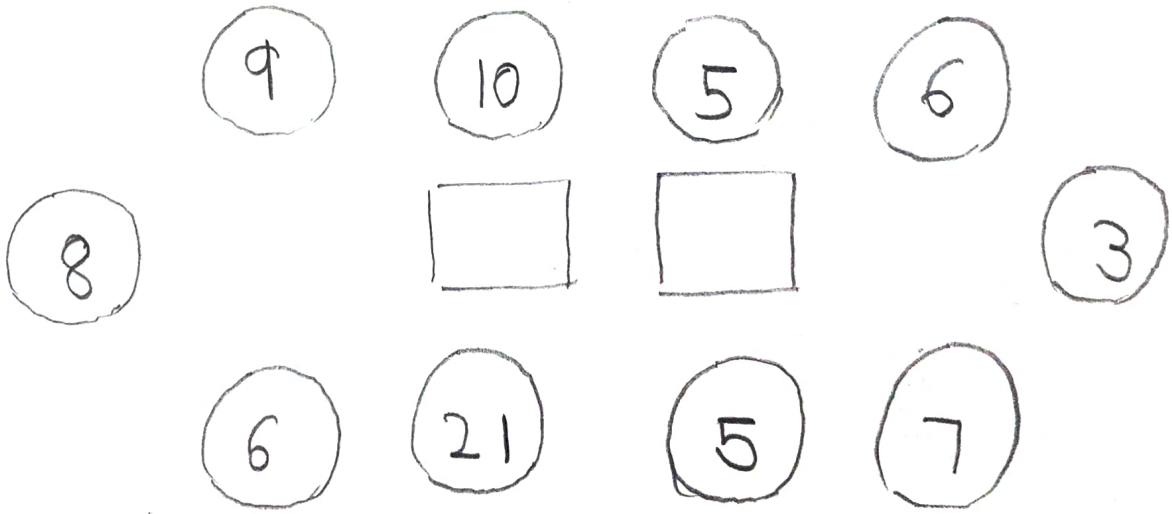
1.



2.



3.



Problem with averages of 6 numbers surrounding it