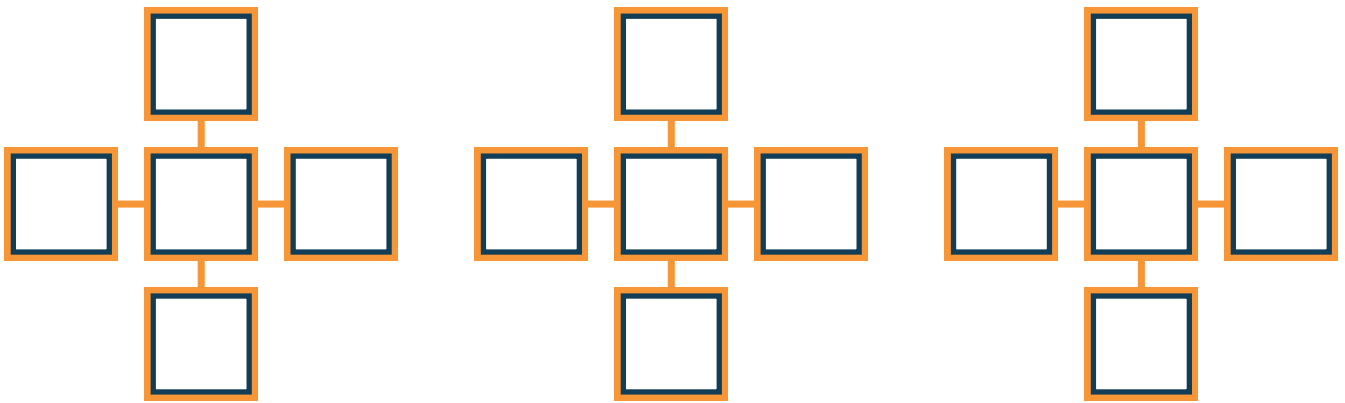


MATHMAG

1. | LINE UP SUMS 1

Place the numbers 1 to 5 in each of the grids below so that the two lines of three each have the same sum. Each grid must have a different sum.



Now look at your three centre numbers. What have they in common? Try to explain why this happens.

Try to fit each of these sets of five numbers in the grids:

4	5	6	7	8
---	---	---	---	---

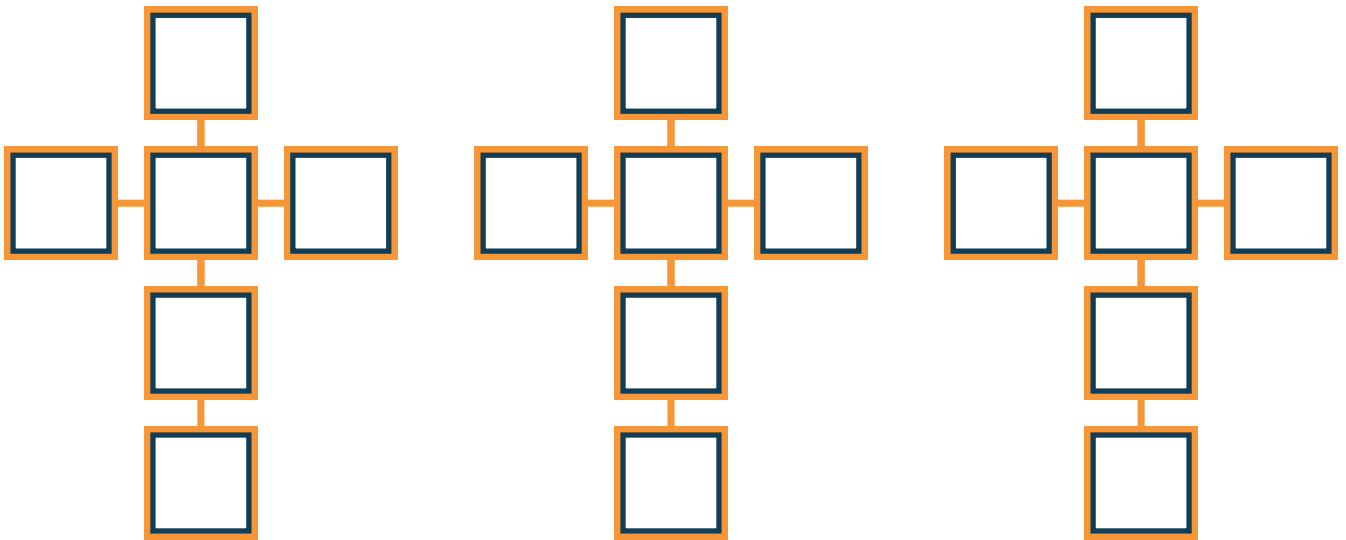
1	3	5	7	9
---	---	---	---	---

1	2	3	4	5
---	---	---	---	---

$\frac{1}{2}$	1	$1\frac{1}{2}$	2	$2\frac{1}{2}$
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2. LINE UP SUMS 2

Place the numbers 1 to 6 in each of the grids below so that the two lines each have the same total. Each grid must have a different total.



Now look at your three centre numbers. What have they in common? Can you explain why this happens?

Try to fit each of these sets of six numbers on the grid

2	4	6	8	10	12
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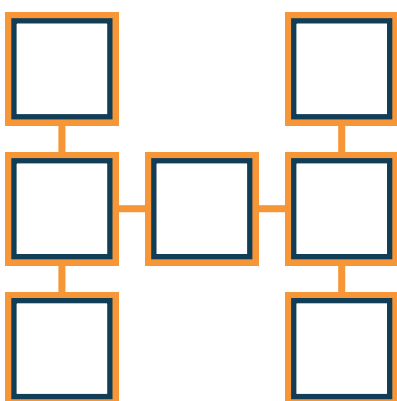
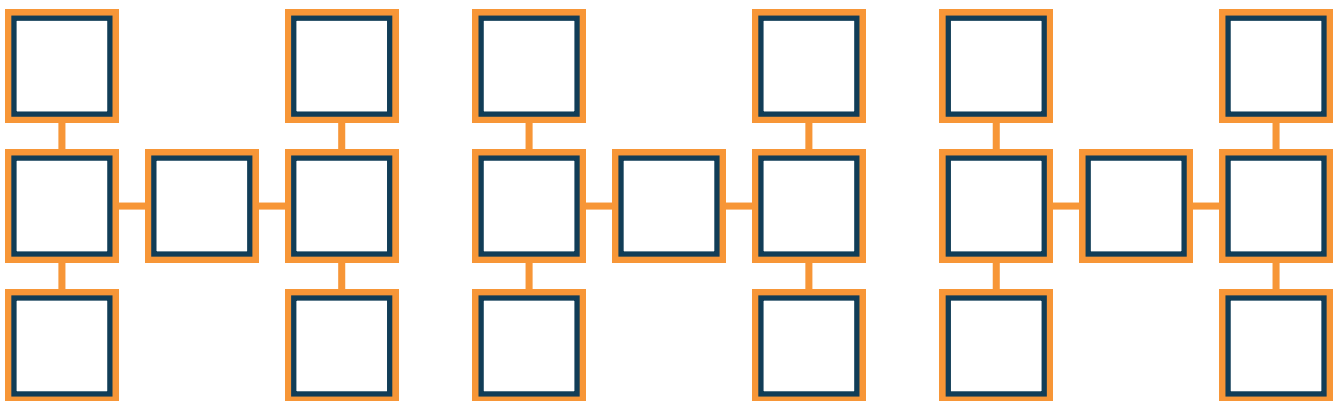
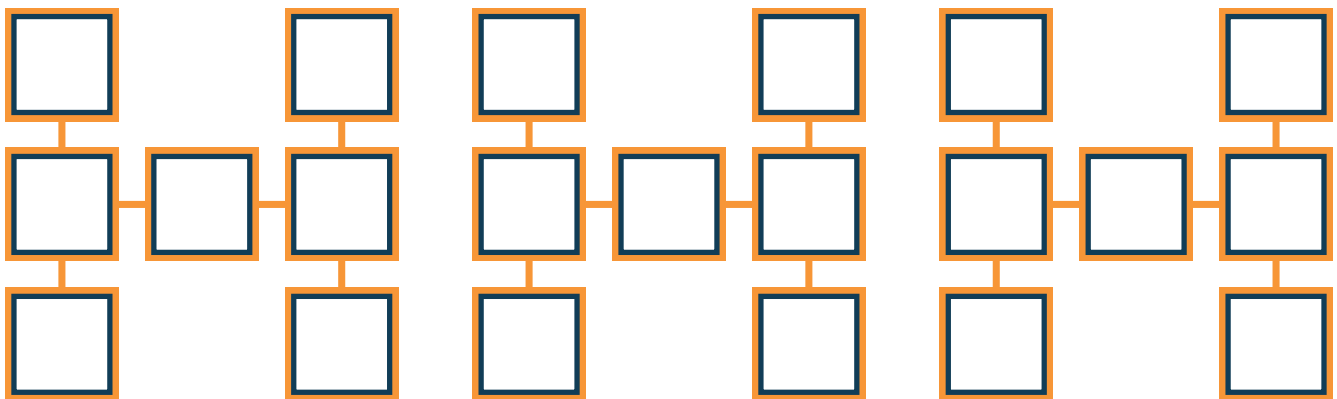
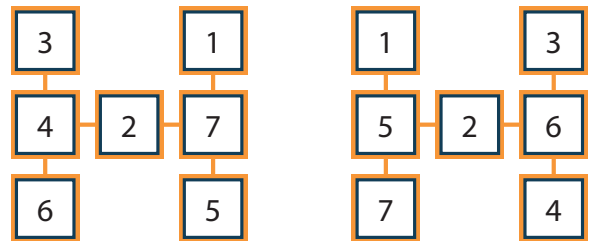
2	3	4	5	6	7
---	---	---	---	---	---

$\frac{1}{3}$	$\frac{2}{3}$	1	$1\frac{1}{3}$	$1\frac{2}{3}$	2
---------------	---------------	---	----------------	----------------	---

3. LINE UP SUMS 3

Can you use the numbers 1 to 7 in each of the grids below to produce 7 different solutions? Some solutions have the same totals, but the arrangements are different.

Note: These two are counted as being the 'same' for this question.

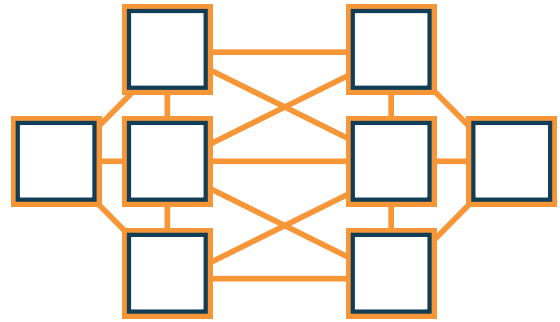


What do you notice about the centre numbers?

Can you explain why this happens?

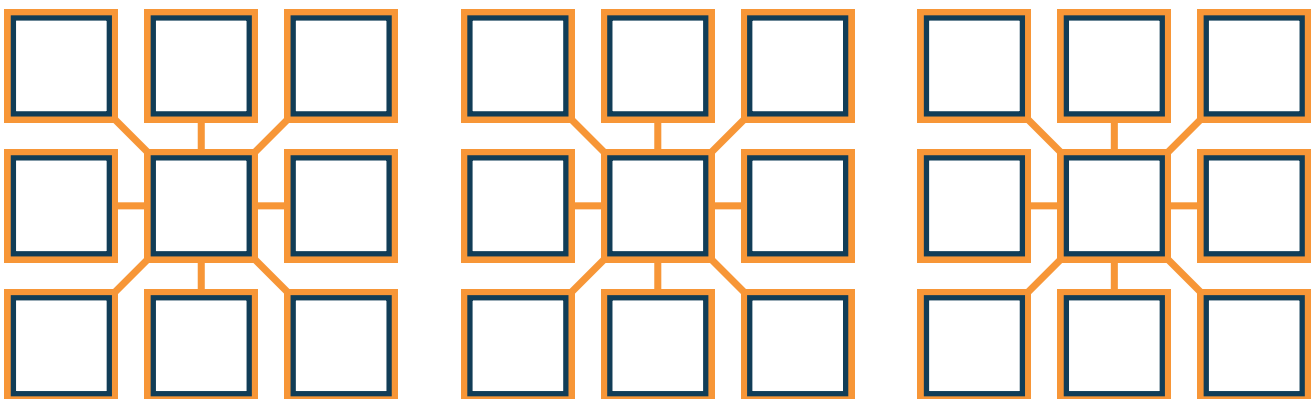
4. NO CONSECUTIVES

Can you write the numbers 1 to 8 in the circles, so that no two consecutive numbers are joined by a line (so 3 cannot be next to 2 or 4)?



5. LINE UP SUMS 4

Place the numbers 1 to 9 in each of the grids below, so that the four lines of three have the same total. Each grid must have a different total.



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