## **Klump** Tutorial



Link numbers together into groups of 1, 2 or 3 so that the sum of numbers in each group matches the values provided.

Some numbers do not belong to a group and must be blanked out. Groups may not touch eachother and neither may blanked-out numbers.

Now we know the rules, let's try and solve this puzzle ...

For the purposes of this tutorial we will refer to a group as a Klump and blanked-out numbers as Separators.

A good starting place is with "dead-ends".

Take a look at the number 7 in the top right. Imagine that this number is a Separator.

As explained, there is a rule that two Separators may not be placed next to eachother so if 7 is a Separator then the dead-end 5 must form a Klump.

Well, by looking at the Totals beneath the puzzle we can see that the number 5 can not be a Klump. Therefore we can conclude that this 7 cannot be a Separator and therefore must be a member of a Klump.

In this tutorial we will colour Klumps in green and Separators in red.

We can now repeat the logic above throughout the puzzle and we find that there are two other places where illegal Klumps would be left.

Now we are going expand one of these Klumps. Imagine that the number 2 next to the 7 at the top were members of the same Klump ...



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... well, we would be left with no possible Klumps at this location.

To explain; the numbers 2 and 7 make a Klump of 9 which is not a valid Klump total.

Even if we expand this Klump to incorporate the 2, 5 or 8 we would form Klumps of 11, 14 and 16 respectively - none of which are valid.

We can therefore conclude that the number 2 must be a Separator.



## **Klumpz** Tutorial



If the number 2 (now coloured red) is a Separator then we know that all adjacent numbers must be members of Klumps so we can colour them in green.

This also allows us to eliminate our first total. The top left number 2 is a completed Klump so we can remove the number 2 from the total list.

Can you now spot the number in the puzzle that must definitely be a Separator?

E

D

That's right, there is a number 8 located between two Klumps. If this number 8 was a member of a Klump then it would form a Klump of size 4 which is too large.

We have therefore coloured it red.

In addition, take a look at the top right of the puzzle and notice that the 7 and 5 must form a Klump so we can colour them both in green and remove the Total 12.

By eliminating the 12 Total we can now complete another Klump.

Look at the numbers 8 and 1 that currently form a Klump of Total 9. We obviously need to expand this Klump (because it is not a valid Total) but do we include the adjacent 3 or the 1?

Well we have to include the number 1 because 10 is the only valid Total left.

The 10 Total can now be removed.

(G)

You will see that completing Klumps is very useful.

We can immediately place Separators (red) around the 8-1-1 Klump and place Klump members (green) next to the new Separators.

Note that this creates a Klump on the middle right with a Total of 8 so we can also remove this Total.

(H)

The puzzle now becomes trivial as we just need to expand the incomplete Klump numbers so that they result in the final valid Totals (4 and 13).

The easiest one to expand is the number 8 because it is a dead-end. We can easily see that this must link with the number 5 beneath it to create the 13 Klump.

The 7 must therefore be a Separator and the 1 and 3 link to form the final Klump of Total 4.







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## Congratulations, you have just solved your first Klump.

Please visit http://www.vexuspuzzle.com if you wish to try more Klump puzzles.