

Topic: **Heuristics**

Station: **Domino puzzle**

The 4-4 goes in the top right hand corner.

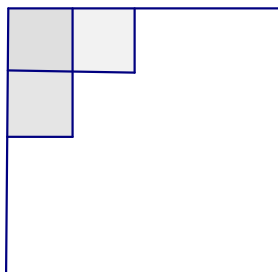
If we can answer the following questions, we can complete the puzzle without further guesswork:

(A) Is there only one place a domino can go? If the answer is ‘Yes’, put it in.
As you complete the puzzle, keep asking this question.

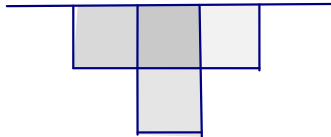
(B) Is there a place a domino *cannot* go?
If so, what are the consequences?

(C) In how many ways can a domino fit in a chosen position?

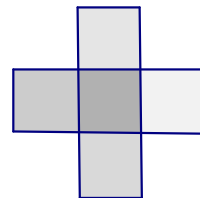
In a corner: 2



Along an edge: 3

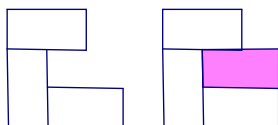


In the middle: 4



If the answer is ‘More than 1’, leave it!

(D) Is there a square boxed in on three sides? If there is, a fit is forced:



Let us begin. See the stages of completion below. Each line begins with the letter for the question which helps, followed by the dominoes concerned.

1.

(A) 4-0, 6-0.

(D) 5-2, 5-5.

2.

(B) This concerns 6-5.

Can it go in column p? No. It would force the 5-5 between it and column s but the 5-5 is already in place.

Can it go in column q? No. It would force a second 6-5 in column r.

Therefore it must go in column r.

(A) 6-6.

(B) Can the 5-4 go in column p? No. It would force a second 5-4 in column q. Therefore it must go in column q.

3.

(A) 5-3.

(D) 4-1, 5-0.

(D) 4-3.

4.

(A) 4-2, 5-1, 6-4.

(B) The 6-3 could not go in row u because it would force a duplicate in row t. Therefore it must go in row t.

(A) 6-2.

(D) 3-0.

(D) 1-1.

5.

(B) Neither column p nor column q is a possibility for the 3-2 since it would force a duplicate, so the 3-3 must go there.

(A) 6-1.

(D) All the remaining pieces.

1

1	4	6	6	6	6	0	4
0	3	5	5	5	5	2	4
5	2	4	4	4	4	0	5
1	1	3	3	3	3	6	5
4	6	2	2	2	2	6	3
1	6	1	1	1	1	3	0
5	2	0	0	0	0	3	2

2

		p	q	r	s		
1	4	6	6	6	6	0	4
0	3	5	5	5	5	2	4
5	2	4	4	4	4	0	5
1	1	3	3	3	3	6	5
4	6	2	2	2	2	6	3
1	6	1	1	1	1	3	0
5	2	0	0	0	0	3	2

3

1	4	6	6	6	6	0	4
0	3	5	5	5	5	2	4
5	2	4	4	4	4	0	5
1	1	3	3	3	3	6	5
4	6	2	2	2	2	6	3
1	6	1	1	1	1	3	0
5	2	0	0	0	0	3	2

4

1	4	6	6	6	6	0	4
0	3	5	5	5	5	2	4
5	2	4	4	4	4	0	5
1	1	3	3	3	3	6	5
4	6	2	2	2	2	6	3
1	6	1	1	1	1	3	0
5	2	0	0	0	0	3	2

5

		p	q				
1	4	6	6	6	6	0	4
0	3	5	5	5	5	2	4
5	2	4	4	4	4	0	5
1	1	3	3	3	3	6	5
4	6	2	2	2	2	6	3
1	6	1	1	1	1	3	0
5	2	0	0	0	0	3	2

t

u