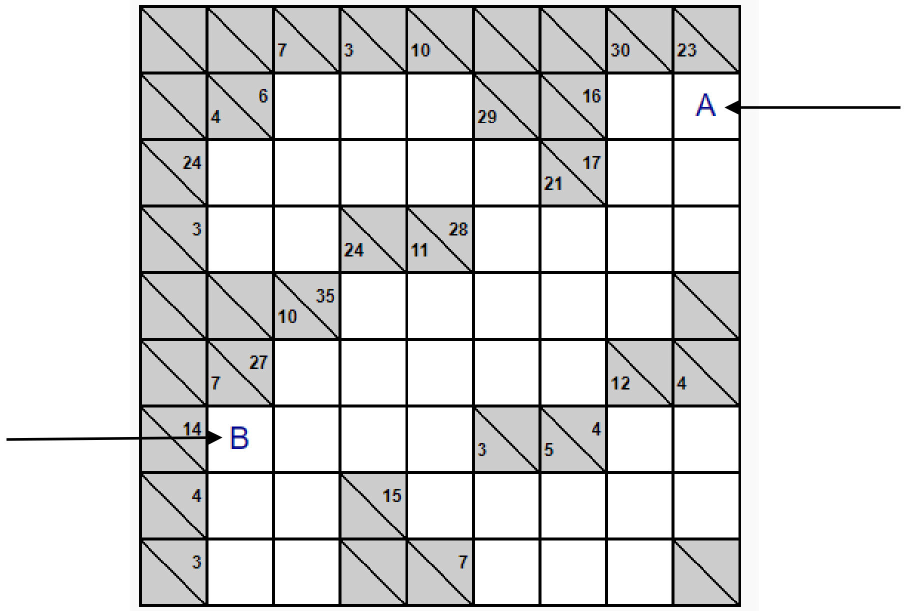
Logical Reasoning – Kakuro Practice

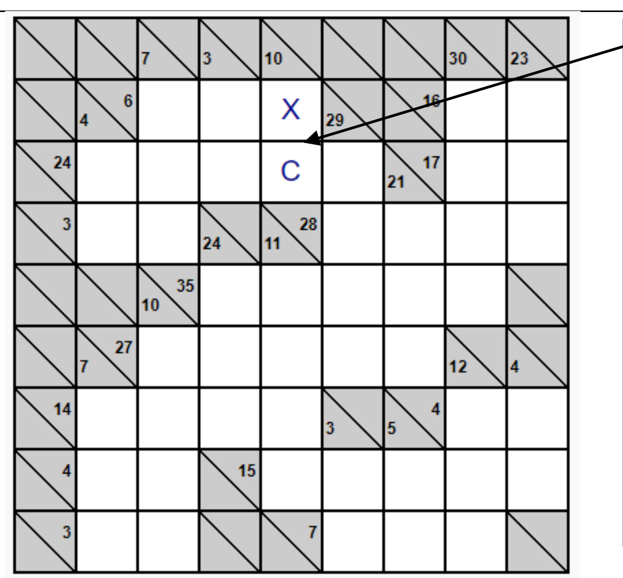
Use the following information to answer the first question.



1. The values of A and B respectively are

A) 9 and 1 B) 9 and 4 C) 7 and 2 D) 7 and 4

Use the following diagram to answer the next question.



2. Which statement below is true?

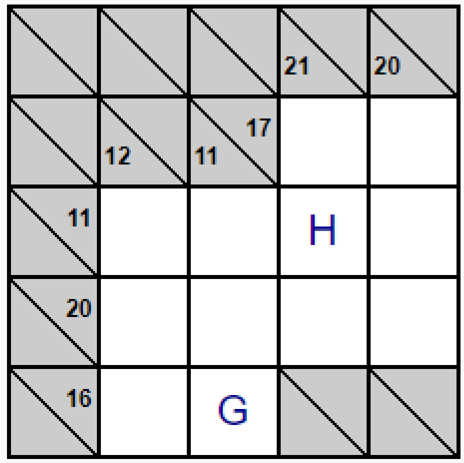
A) The unique sum for 6 is 1 + 1 + 4, and when 4 goes into spot X, C = 6.

B) The unique sum for 6 is 1 + 1 + 4, and when 1 goes into spot X, C = 9.

C) The unique sum for 6 is 1 + 2 + 3, and when 3 goes into spot X, C = 7.

D) The unique sum for 6 is 1 + 2 + 3, and when 2 goes into spot X, C = 8.

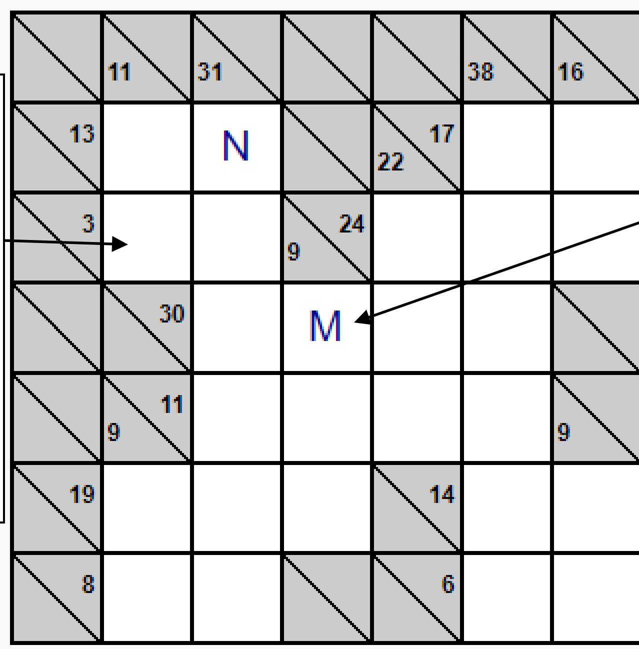
Use the puzzle below to answer the next question.



3. The value of *G* is _____. [*HINT: There is a unique sum for 11 with four squares: 11 = 1 + 2 + 3 + 5*]
   The value of H is _____.

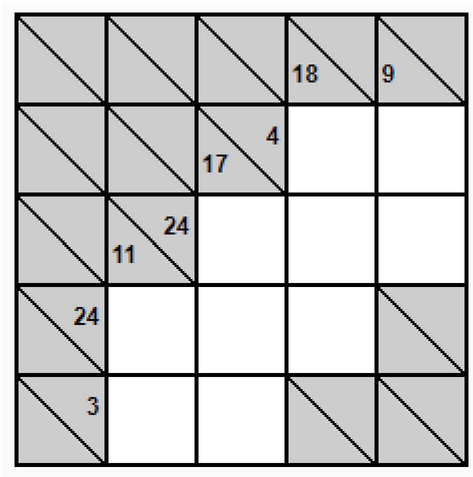
Use the following puzzle to answer the next two questions.

4. Since 3 has a unique sum, with two squares, of 1 + 2, and these squares intersect a vertical sum of 11, with two squares, we know the order of 1 and 2. With this information, we can determine the value of N to be ___.

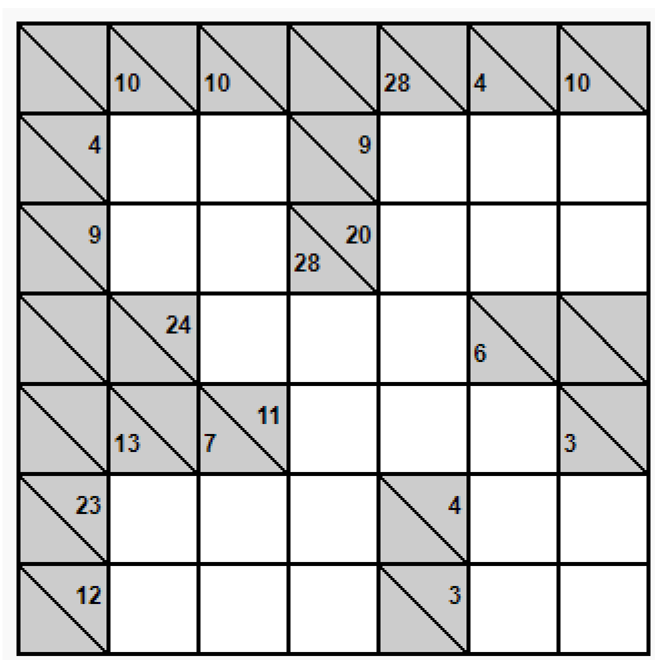


5. Since 30 has a unique sum, with four squares, of 6 + 7 + 8 + 9, and these four squares intersect a sum of 9 with three squares, the only possible value for M is _____

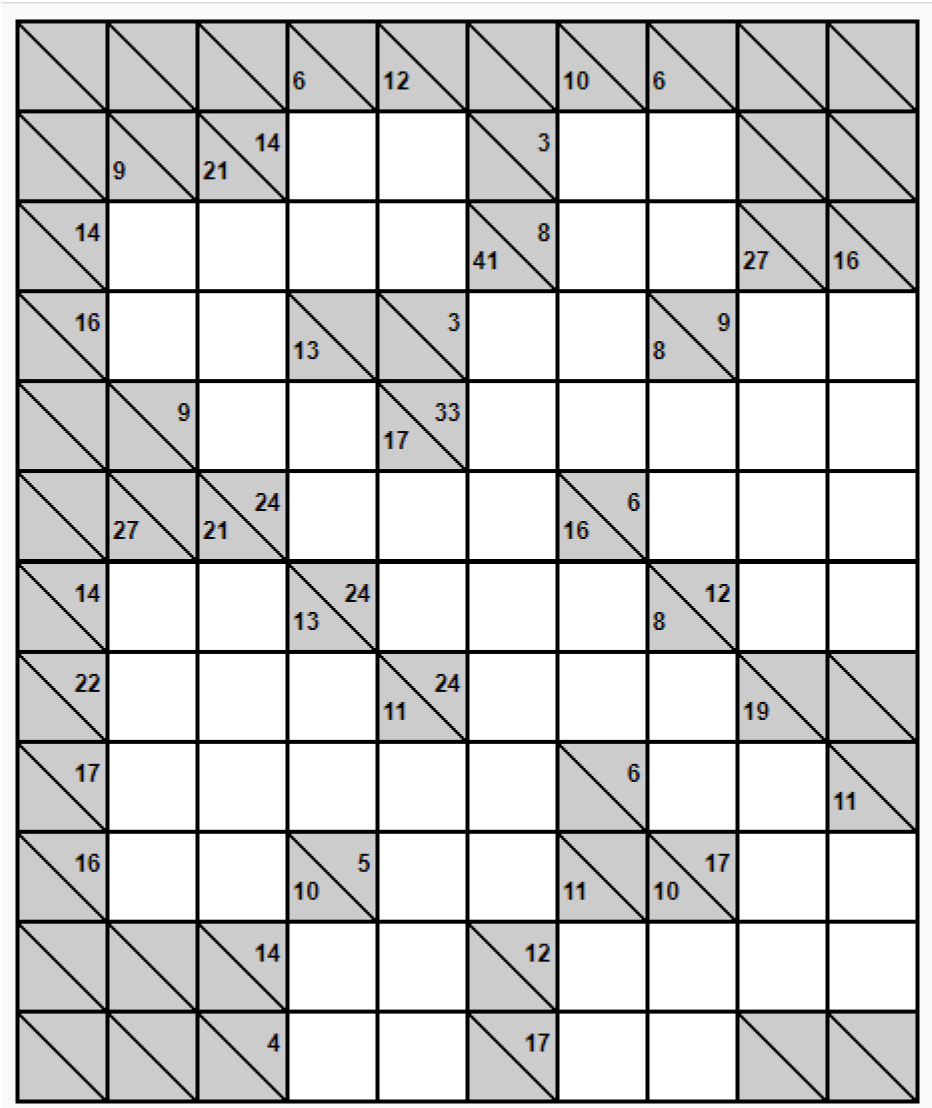
6. Complete the following puzzle.



7. Complete the following puzzle.

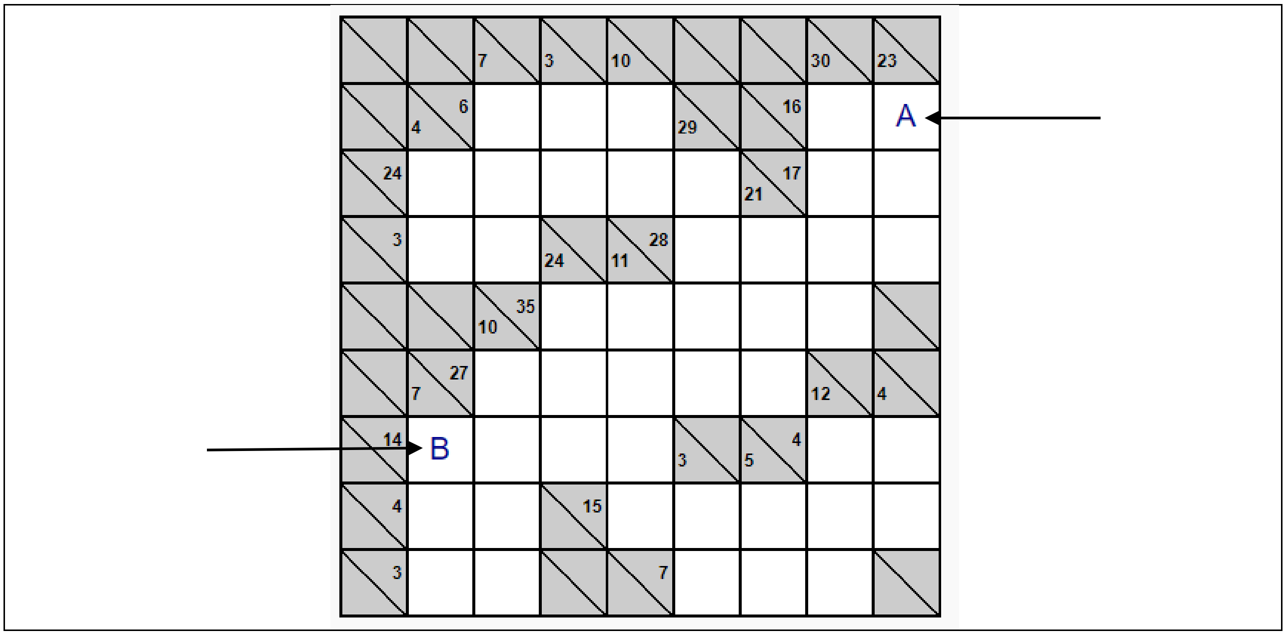


8. Complete the following puzzle.



<u>Logical Reasoning – Kakuro Practice</u><u>Solutions</u>

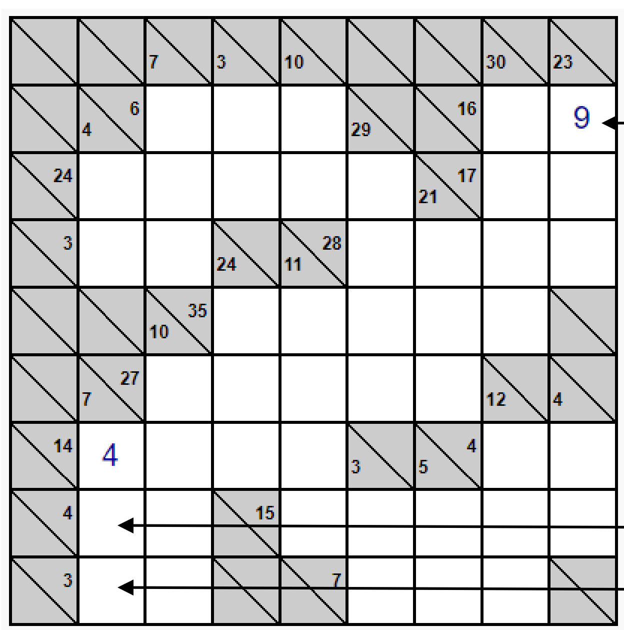
Use the following information to answer the first question.



1. The values of A and B respectively are

A) 9 and 1 B) 9 and 4 C) 7 and 2 D) 7 and 4

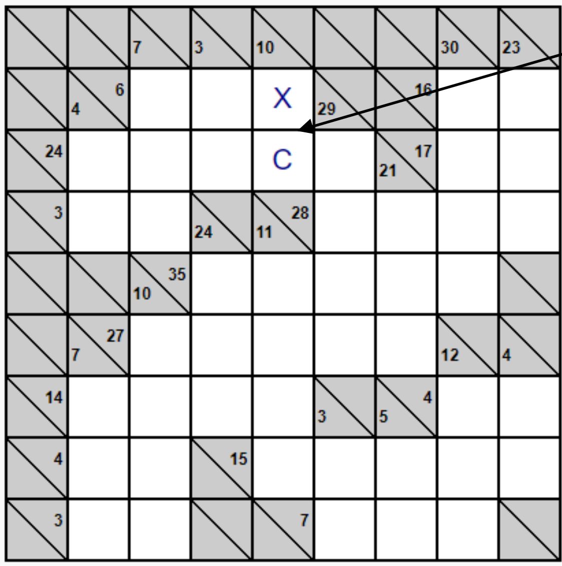
Solution



The unique sum for 16 with two squares is 7 + 9. The unique sum for 23 with three squares is 6 + 8 + 9. The only overlapping number to satisfy both of these requirements is 9.

The unique sum for 7 with three squares is 1 + 2 + 4. Of the three vertical squares beneath the clue of 7, 4 cannot go in the bottom two, because one horizontal sum is 4 and the other horizontal sum is 3. The only place for 4 was in position B.

Use the following diagram to answer the next question.



2. Which statement below is true?

A) The unique sum for 6 is 1 + 1 + 4, and when 4 goes into spot X, C = 6.

B) The unique sum for 6 is 1 + 1 + 4, and when 1 goes into spot X, C = 9.

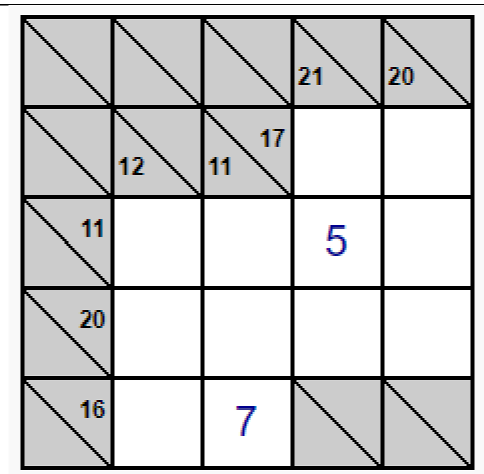
C) The unique sum for 6 is 1 + 2 + 3, and when 3 goes into spot X, C = 7.

D) The unique sum for 6 is 1 + 2 + 3, and when 2 goes into spot X, C = 8.

Solution

The unique sum for 6, with three squares, is 1 + 2+ 3. Of these three horizontal squares, 3 cannot go in the first square. The vertical sum of 7, given three squares, is 1 + 2 + 4 (which doesn't include 3). As well, 3 cannot go in the second square, since that vertical sum is 3. The unique sum for 3, given two squares, is 1 + 2 (doesn't include 3). Thus, 3 must go in the last square, and with the clue of two squares have a sum of 10, C = 7.

Use the puzzle below to answer the next question.



3. The value of G is _7_. [*HINT: There is a unique sum for 11 with four squares: 11 = 1 + 2 + 3 + 5*]
   The value of H is _5_.

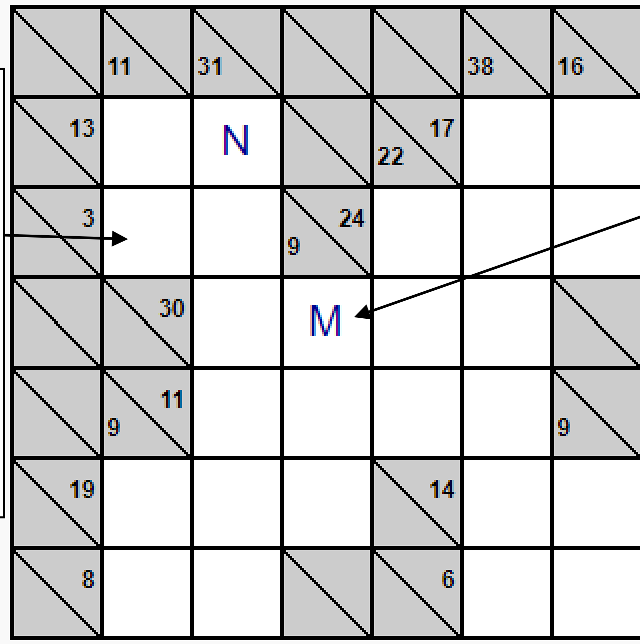
Solution

The unique sum for 16 with two squares is 7 + 9. If 9 were to occupy position, there would then be three vertical squares having a sum of 11. The only way that could happen is if 1 is repeated, in other words, 1 + 1 + 9, but that is not allowed. Thus G = 7.

With 11 having a unique sum of 1 + 2 + 3 + 5, we look at the column having a sum of 21, with three squares. If spot H is occupied by 1, or 2, or 3, then the sum of the remaining two squares would be 20, 19, or 18 respectively. None of these are possible, since the largest sum with two squares is 17 (8 + 9). By elimination, 5 must go in this spot.

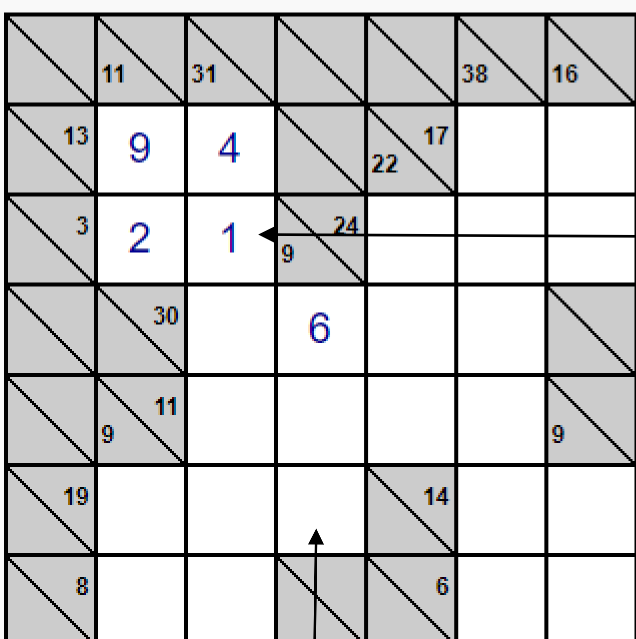
Use the following puzzle to answer the next two questions.

4. Since 3 has a unique sum, with two squares, of 1 + 2, and these squares intersect a vertical sum of 11, with two squares, we know the order of 1 and 2. With this information, we can determine the value of N to be __4__.



5. Since 30 has a unique sum, with four squares, of 6 + 7 + 8 + 9, and these four squares intersect a sum of 9 with three squares, the only possible value for M is __6__

Solution



The sum of 3 must be in the order, 2 + 1, because if 1 was first, the sum of 11 would have to have 10, which is not allowed.

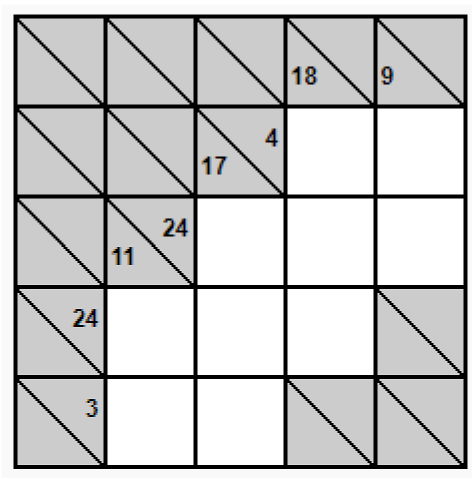
We can then determine the vertical sum of 11 must be 9 + 2.

This leads us to the horizontal sum of 13 to be 9 + 4. The value for N is 4.

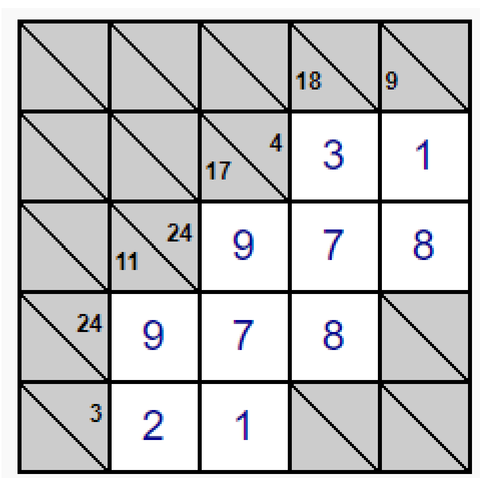
To get a sum of 9, with three squares, the largest number possible is 6. For example, if this number was 7, to get a sum of 9 would require a repetition (1 + 1 +

7), which is not allowed. And since 6 is the smallest number of the sum of 30, 6 + 7 + 8 + 9, the value of M is 6.

6. Complete the following puzzle.



Solution



7. Complete the following puzzle.

\	10\	10\	\	28\	4\	10\
\4			\9			
\9			28\20			
\	\24				6\	\
\	13\	7\11				3\
\23				\4		
\12				\3		

Solution

\	10\	10\	\	28\	4\	10\
\4	3	1	\9	6	1	2
\9	7	2	28\20	9	3	8
\	\24	7	9	8	6\	\
\	13\	7\11	4	5	2	3\
\23	9	6	8	\4	3	1
\12	4	1	7	\3	1	2

8. Complete the following puzzle.

\	\	\	6\	12\	\	10\	6\	\	\
\	9\	21\14			\3			\	\
\14					41\8			27\	16\
\16			13\	\3			8\9		
\	\9			17\33					
\	27\	21\24				16\6			
\14			13\24				8\12		
\22				11\24				19\	\
\17						\6			11\
\16			10\5			11\	10\17		
\	\	\14			\12				
\	\	\4			\17			\	\

Solution

			6\	12\		10\	6\		
	9\	21\14	5	9	\3	2	1		
\14	2	8	1	3	41\8	3	5	27\	16\
\16	7	9	13\	\3	2	1	8\9	8	1
	\9	4	5	17\33	5	4	7	9	8
	27\	21\24	8	9	7	16\6	1	3	2
\14	8	6	13\24	8	9	7	8\12	7	5
\22	9	5	8	11\24	8	9	7	19\	
\17	3	1	5	2	6	\6	1	5	11\
\16	7	9	10\5	1	4	11\	10\17	8	9
		\14	9	5	\12	3	1	6	2
		\4	1	3	\17	8	9		