

1. Here is a puzzle called an **Arithmetic Square** where you have to fill in the white blanks with numbers and one of the 3 operations +, - or \times (there is no division in this puzzle.)

Here's an example:

| | | | | | | | |
|----------|----------|----------|---|----------|---|----|----|
| 4 | \times | 3 | - | 9 | + | 8 | 11 |
| + | | + | | + | | + | |
| 8 | \times | 9 | + | 3 | - | | 71 |
| + | | \times | | + | | - | |
| 9 | \times | 4 | + | 4 | | 1 | 41 |
| \times | | | | \times | | + | |
| 3 | + | 8 | - | | | 9 | 18 |
| 39 | | 31 | | 20 | | 20 | |

Answer:

| | | | | | | | |
|----------|----------|----------|---|----------|---|----|----|
| 4 | \times | 3 | - | 9 | + | 8 | 11 |
| + | | + | | + | | + | |
| 8 | \times | 9 | + | 3 | - | 4 | 71 |
| + | | \times | | + | | - | |
| 9 | \times | 4 | + | 4 | + | 1 | 41 |
| \times | | - | | \times | | + | |
| 3 | + | 8 | - | 2 | + | 9 | 18 |
| 39 | | 31 | | 20 | | 20 | |

Now you try:

| | | | | | | | |
|----|---|----|---|----|---|----|----|
| 4 | x | 3 | - | 9 | + | 8 | 11 |
| + | | + | | | | | |
| 8 | | 9 | + | 3 | | 4 | 71 |
| + | | | | + | | - | |
| 9 | | | | 8 | | 3 | 41 |
| x | | | | | | | |
| | + | 8 | + | 4 | | | 47 |
| 39 | | 31 | | 38 | | 38 | |

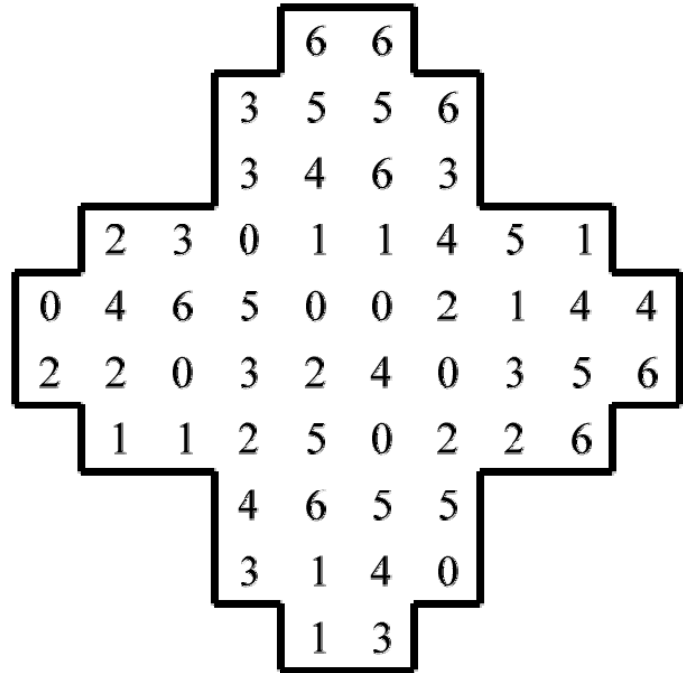
Answer:

| | | | | | | | |
|----|---|----|---|----|---|----|----|
| 4 | x | 3 | - | 9 | + | 8 | 11 |
| + | | + | | - | | x | |
| 8 | x | 9 | + | 3 | - | 4 | 71 |
| + | | x | | + | | - | |
| 9 | x | 4 | + | 8 | - | 3 | 41 |
| x | | - | | x | | + | |
| 3 | + | 8 | + | 4 | x | 9 | 47 |
| 39 | | 31 | | 38 | | 38 | |

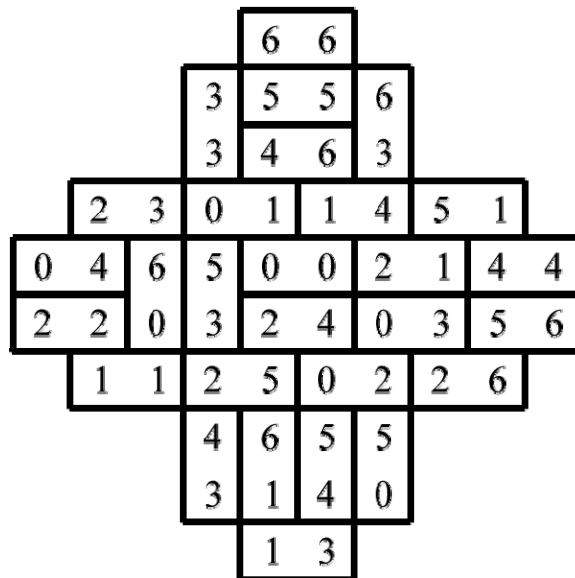
2. Here is a puzzle called **Domino**. Can you figure out where all the unique domino pieces are placed in this puzzle? To help you a set of unique domino pieces is given.

Here's an example:

| | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|
| 6 6 | 6 5 | 6 4 | 6 3 | 6 2 | 6 1 | 6 0 |
| | 5 5 | 5 4 | 5 3 | 5 2 | 5 1 | 5 0 |
| | | 4 4 | 4 3 | 4 2 | 4 1 | 4 0 |
| | | | 3 3 | 3 2 | 3 1 | 3 0 |
| | | | | 2 2 | 2 1 | 2 0 |
| | | | | | 1 1 | 1 0 |
| | | | | | | 0 0 |



Answer:



Now you try:

| | | | | | | |
|----|----|----|----|----|----|----|
| 66 | 65 | 64 | 63 | 62 | 61 | 60 |
| | 55 | 54 | 53 | 52 | 51 | 50 |
| | | 44 | 43 | 42 | 41 | 40 |
| | | | 33 | 32 | 31 | 30 |
| | | | | 22 | 21 | 20 |
| | | | | | 11 | 10 |
| | | | | | | 00 |

| | | | | | | | | | | | |
|--|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 0 | 1 | | | | | |
| | | | | | 0 | 5 | 6 | 6 | | | |
| | | | | | 2 | 4 | 4 | 4 | | | |
| | | | | 3 | 1 | 5 | 2 | 6 | 6 | 3 | 6 |
| | 6 | 0 | 5 | 0 | 6 | 5 | 3 | 3 | 1 | 1 | |
| | 4 | 5 | 5 | 1 | 2 | 2 | 2 | 2 | 3 | 1 | |
| | | 4 | 1 | 3 | 3 | 4 | 0 | 0 | 3 | | |
| | | | | 4 | 0 | 2 | 5 | | | | |
| | | | | | 1 | 4 | 6 | 2 | | | |
| | | | | | | 0 | 5 | | | | |

Answer:

| | | | | | | | | | | | |
|--|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 0 | 1 | | | | | |
| | | | | | 0 | 5 | 6 | 6 | | | |
| | | | | | 2 | 4 | 4 | 4 | | | |
| | | | | 3 | 1 | 5 | 2 | 6 | 6 | 3 | 6 |
| | 6 | 0 | 5 | 0 | 6 | 5 | 3 | 3 | 1 | 1 | |
| | 4 | 5 | 5 | 1 | 2 | 2 | 2 | 2 | 3 | 1 | |
| | | 4 | 1 | 3 | 3 | 4 | 0 | 0 | 3 | | |
| | | | | 4 | 0 | 2 | 5 | | | | |
| | | | | | 1 | 4 | 6 | 2 | | | |
| | | | | | | 0 | 5 | | | | |

3. Here is a puzzle called **Futoshuki**. Place digits 1-4 in the grid. Each row and column should have all digits once and only once. The > (greater) and < (lesser) symbols between cells indicate which cell has a larger number.

Here's an example:

| | | | | |
|--|---|---|---|---|
| | | < | 4 | |
| | 3 | | | |
| | | | | > |
| | | 1 | 3 | |

Answer:

| | | | | |
|---|---|---|---|---|
| 3 | 1 | < | 4 | 2 |
| 4 | 3 | | 2 | 1 |
| 1 | 2 | | 3 | 4 |
| 2 | 4 | | 1 | 3 |

Now you try:

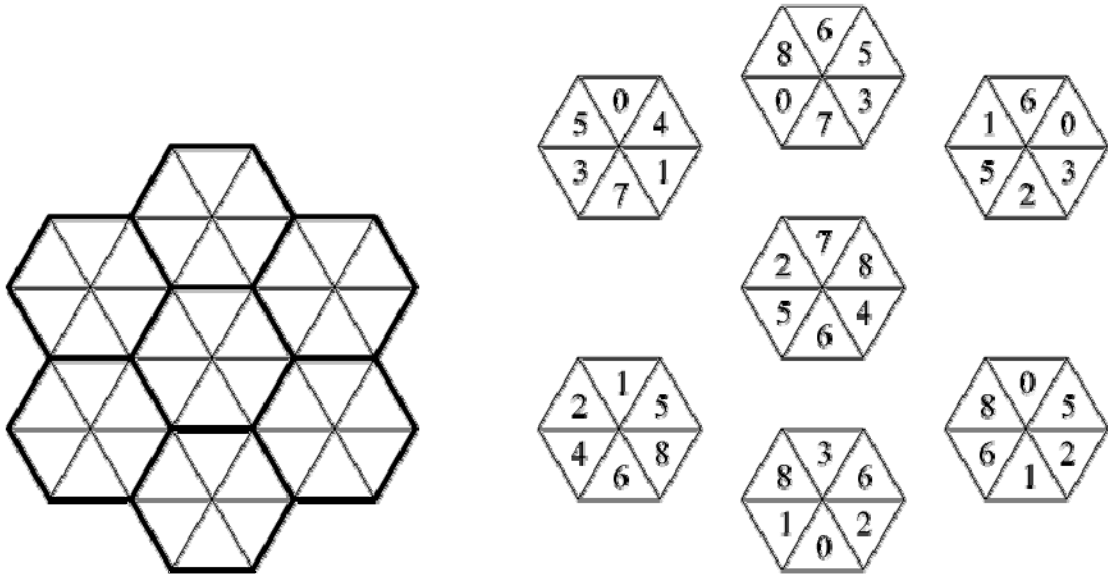
| | | | |
|---|--|---|---|
| 1 | | | |
| | | 2 | 3 |
| | | | |
| | | | |

Answer:

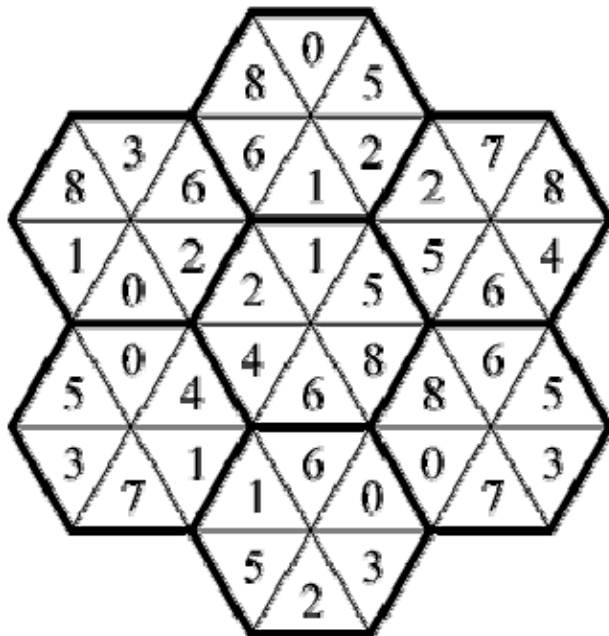
| | | | |
|---|---|---|---|
| 1 | 4 | 3 | 2 |
| 4 | 1 | 2 | 3 |
| 2 | 3 | 1 | 4 |
| 3 | 2 | 4 | 1 |

4. Here is a puzzle called **Hexagony**. Fit the hexagonal shapes into this honey-comb in such a way that all neighboring triangles of adjacent hexagons have the same digits. You cannot rotate the hexagons.

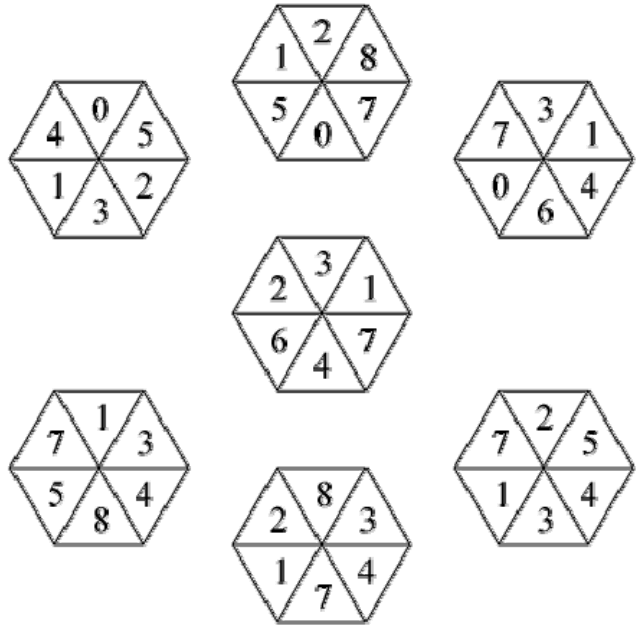
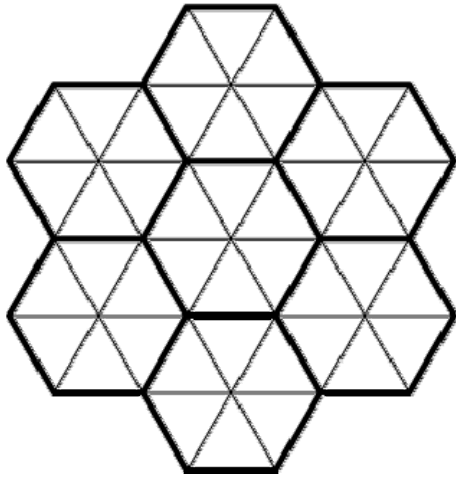
Here's an example:



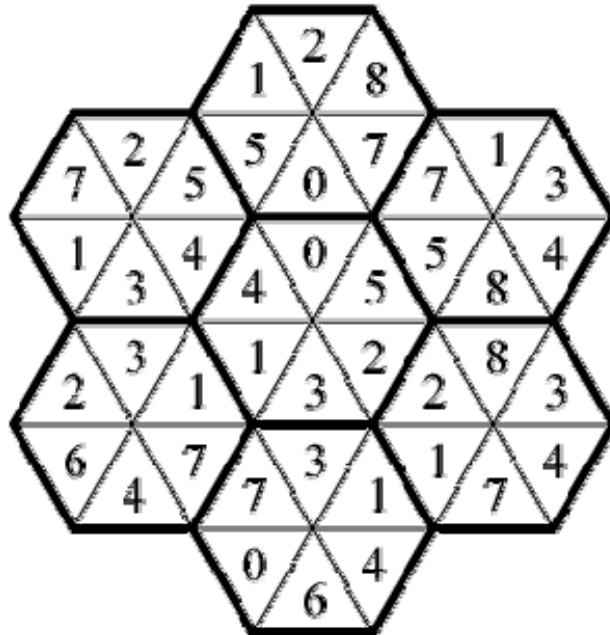
Answer:



Now you try:



Answer:



5. Here is a puzzle called **Hitori**. Shade the numbers in such a way, that:

1. The un-shaded numbers do not have any repetition in the row or column.
2. Shaded numbers are not adjacent, either horizontally or vertically.
3. The un-shaded numbers create a single shape of horizontally or vertically connected cells.

Here's an example:

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

Answer:

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

Now you try:

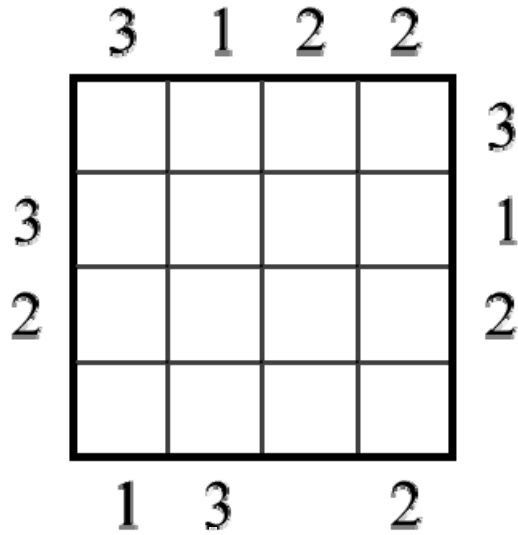
| | | | | | |
|---|---|---|---|---|---|
| 5 | 3 | 5 | 1 | 4 | 2 |
| 1 | 5 | 2 | 2 | 3 | 5 |
| 2 | 2 | 4 | 3 | 5 | 3 |
| 3 | 2 | 3 | 4 | 3 | 5 |
| 5 | 5 | 1 | 3 | 2 | 4 |
| 3 | 4 | 2 | 4 | 1 | 2 |

Answer:

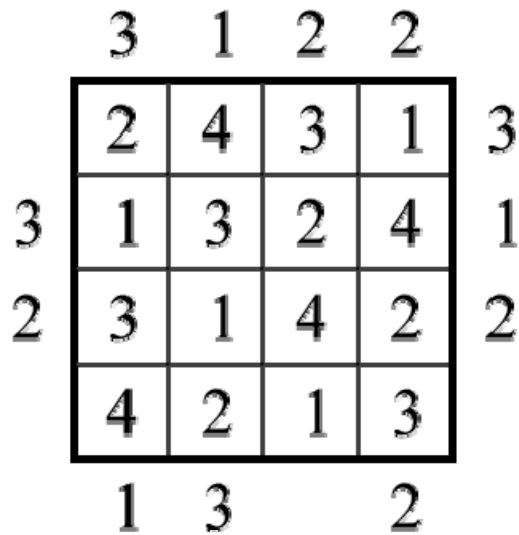
| | | | | | |
|---|---|---|---|---|---|
| 5 | 3 | 5 | 1 | 4 | 2 |
| 1 | 5 | 2 | 2 | 3 | 5 |
| 2 | 2 | 4 | 3 | 5 | 3 |
| 3 | 2 | 3 | 4 | 3 | 5 |
| 5 | 5 | 1 | 3 | 2 | 4 |
| 3 | 4 | 2 | 4 | 1 | 2 |

6. Here is a puzzle called **Tower Sudoku**. Fill the grid with digits 1-4 in such a way that all rows and columns have all digits once and only once. The numbers outside specifies how many towers can be seen from that position if the digits represent the height (number of floors) of towers.

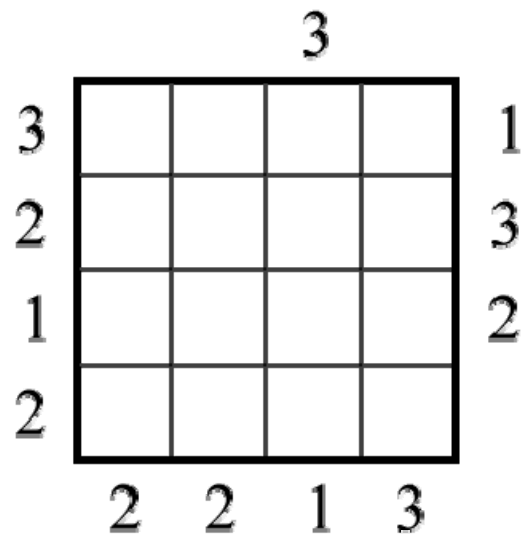
Here's an example:



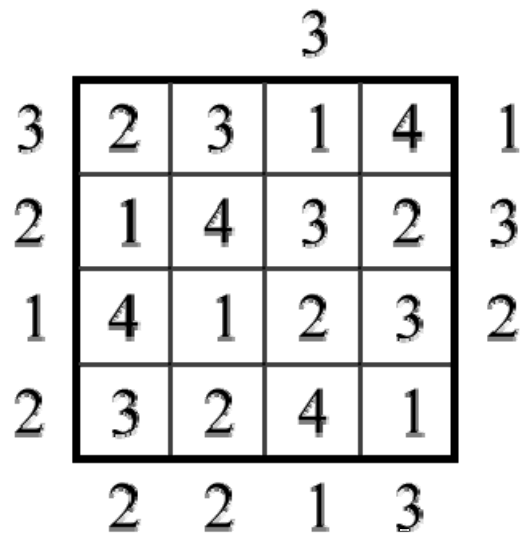
Answer:



Now you try:



Answer:



7. Here is a puzzle called **Nine Digits**. Can you fill all nine blank squares with digits 1-9 in such a way that the result of the arithmetic operations matches the result given outside each row and column?

Here is an example:

| | | | | | |
|----|---|---|---|---|------|
| | + | 9 | - | | = 12 |
| + | | - | | - | |
| 2 | + | | - | | = 7 |
| x | | x | | + | |
| 8 | + | | + | 5 | = 16 |
| = | | = | | = | |
| 72 | | 9 | | 8 | |

Answer:

| | | | | | |
|----|---|---|---|---|------|
| 7 | + | 9 | - | 4 | = 12 |
| + | | - | | - | |
| 2 | + | 6 | - | 1 | = 7 |
| x | | x | | + | |
| 8 | + | 3 | + | 5 | = 16 |
| = | | = | | = | |
| 72 | | 9 | | 8 | |

Now you try:

| | | | | | | |
|-----------|----------|-----------|----------|-----------|---|-----------|
| 9 | - | | - | | = | 2 |
| + | | x | | + | | |
| | x | | x | 4 | = | 56 |
| x | | x | | x | | |
| | x | 8 | + | | = | 43 |
| = | | = | | = | | |
| 55 | | 56 | | 30 | | |

Answer:

| | | | | | | |
|-----------|----------|-----------|----------|-----------|---|-----------|
| 9 | - | 1 | - | 6 | = | 2 |
| + | | x | | + | | |
| 2 | x | 7 | x | 4 | = | 56 |
| x | | x | | x | | |
| 5 | x | 8 | + | 3 | = | 43 |
| = | | = | | = | | |
| 55 | | 56 | | 30 | | |

8. Here is a puzzle called **Fillamino**. There are Tetris-like shapes of various sizes in this 6x6 square. The numbers indicate the size of the shape that covers the particular square. No two shapes of the same size can touch each other. Can you figure out the pattern of all shapes? (Tips: continue a number along the only free neighboring cells. Draw out a shape once there are two cells of 2's together or three cells of 3's together...)

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

Answer:

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

Now you try:

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

Answer:

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

9. This type of puzzle is called *StickLinks*. See if you can find the hidden phrase. HINT: Start with the circled letter: Plus, we've given you the quote's author.

| STEP 1 | | STEP 2 | | STEP 3 | |
|--|--|--|--|---|--|
| To find the hidden phrase, start with the circled letter. The fill-in blanks at the bottom also will help. | Y S W M E H O E N M E T O H S _____ _____ | Draw a line from each correct letter to the next as you reveal the phrase. | Y S W M E H—O E N M E T O H S H O W M E T H _____ | When done, each letter is used only once and is connected with a straight line. | Y S W M E H—O E N M—E T O H S H O W M E T H E M O N E Y |

Now it's your turn.

F L T E
 E L O U T R
 E I T A B F
 B A K E A L
 E I G T S Y
 K L N I

 _____,

Muhammad Ali

Answer:

F L T E
 E L O U T R
 E I T A B F
 B A K E A L
 E I G T S Y
 K L N I

F L O A T L I K E A
B U T T E R F L Y, S T I N G
L I K E A B E E.

Muhammad Ali

10. **Stick-Ken** is a puzzle where you fill a grid with the digits 1–9 (for a 9x9 Stick-Ken) so that each row and column has all digits once and only once.

In addition, each shape within the grid must fulfill the arithmetic result given for that shape. Individual shapes may contain a digit twice, but within each row and column a digit can be used only once.

The four arithmetic operations used are Addition (+), Subtraction (-), Multiplication (\times), and Division (\div).

A sample 6x6 Stick-Ken is given here. In a 6x6 Stick-Ken, you need to use the digits 1–6.

| | | | | | |
|-------------|-------------|-------------|-------------|--------------|----------|
| $\times 18$ | $\times 15$ | | | $\times 8$ | |
| | $\div 2$ | $\times 80$ | | | 2 |
| | | | $\times 12$ | $\times 150$ | |
| -2 | -1 | | | | $\div 6$ |
| | 1 | $\times 30$ | | | |
| $\times 60$ | | | 1 | -1 | |

Solving a Puzzle:

The clues in single-box shapes are direct values for that box. Fill them in first. For example, in the 6x6 grid below, the fourth cell in the bottom row and the second cell in the fifth row are single-box shapes.

| | | | | | |
|-----|-------------------|-----|-------------------|------|-------------------|
| ×18 | ×15 | | | ×8 | |
| | ÷2 | ×80 | | | ² 2 |
| | | | ×12 | ×150 | |
| -2 | -1 | | | | ÷6 |
| | ¹ 1 | ×30 | | | |
| ×60 | | | ¹ 1 | -1 | |

Next, try to find possibilities for a small shape. The $\div 6$ shape in the last column has only one possible combination of numbers (i.e. 1 and 6). Given that a number 1 is already found in the fifth row (in the second column), the number 1 that fits this equation can only go in the fourth row, leaving the number 6 to go in the fifth row.

| | | | | | |
|-----|-------------------|-----|-------------------|------|-------------------|
| ×18 | ×15 | | | ×8 | |
| | ÷2 | ×80 | | | ² 2 |
| | | | ×12 | ×150 | |
| -2 | -1 | | | | ÷6 1 |
| | ¹ 1 | ×30 | | | 6 |
| ×60 | | | ¹ 1 | -1 | |

People get intimidated by the fact that a shape may have a digit twice. But that sometimes helps us solve the puzzle quicker.

For example, the $\times 150$ in the last two columns can have only one possible combination of numbers (i.e. $6 \times 5 \times 5$). Given that 5 is used twice, and that the 5 has to be in different rows and different columns, there is only one way to place these three numbers. The 6 goes in the third row, fifth column, and 5s go in the other cells.

| | | | | | |
|-------------|----------------|-------------|----------------|-------------------|----------------|
| $\times 18$ | $\times 15$ | | | $\times 8$ | |
| | $\div 2$ | $\times 80$ | | | ² 2 |
| | | | $\times 12$ | $\times 150$ 6 | 5 |
| -2 | -1 | | | 5 | $\div 6$ 1 |
| | ¹ 1 | $\times 30$ | | | 6 |
| $\times 60$ | | | ¹ 1 | -1 | |

In the fifth row, $\times 30$ has two possible number combinations: $1 \times 6 \times 5$ or $2 \times 3 \times 5$. Given that 1 and 6 are already used in this row, we can eliminate that possibility. This means that we have to use $2 \times 3 \times 5$. Although we don't know which digit goes where, this does leave the first column of the fifth row with only one remaining possibility—4.

The $\times 8$ in the first two rows (last two columns) has only one possible combination: $1 \times 2 \times 4$. Given that digits 1 and 2 are already used in the last column, the cell on the top row, last column must be 4. The fifth cell in the top row must be 2 (because 2 is already used in the second row and cannot be repeated). The remaining cell in the second row, fifth column is therefore 1.

| | | | | | |
|-------------|----------------|-------------|----------------|--------------|----------------|
| $\times 18$ | $\times 15$ | | | $\times 8$ | |
| | $\div 2$ | $\times 80$ | | | ² 2 |
| | | | $\times 12$ | $\times 150$ | 5 |
| $\div 2$ | $\div 1$ | | | 5 | $\div 6$ 1 |
| 4 | ¹ 1 | $\times 30$ | | | 6 |
| $\times 60$ | | | ¹ 1 | $\div 1$ | |

| | | | | | |
|-------------|----------------|-------------|----------------|--------------|----------------|
| $\times 18$ | $\times 15$ | | | $\times 8$ | 2 4 |
| | $\div 2$ | $\times 80$ | | 1 | ² 2 |
| | | | $\times 12$ | $\times 150$ | 5 |
| $\div 2$ | $\div 1$ | | | 5 | $\div 6$ 1 |
| 4 | ¹ 1 | $\times 30$ | | | 6 |
| $\times 60$ | | | ¹ 1 | $\div 1$ | |

Now you can solve the rest of the puzzle using similar techniques. The solution for this example is:

| | | | | | |
|---|---|---|---|---|---|
| 6 | 5 | 1 | 3 | 2 | 4 |
| 3 | 6 | 5 | 4 | 1 | 2 |
| 1 | 3 | 4 | 2 | 6 | 5 |
| 2 | 4 | 3 | 6 | 5 | 1 |
| 4 | 1 | 2 | 5 | 3 | 6 |
| 5 | 2 | 6 | 1 | 4 | 3 |

Now you try:

| | | | |
|------------|------------|----------|----------|
| $\times 8$ | $+7$ | | 2 |
| | $\times 8$ | | $\div 3$ |
| | $\times 9$ | | |
| | | $\div 2$ | |

Answer:

| | | | |
|---|---|---|---|
| 1 | 4 | 3 | 2 |
| 4 | 2 | 1 | 3 |
| 2 | 3 | 4 | 1 |
| 3 | 1 | 2 | 4 |

11. This is a puzzle called **Word Search**. In Word Search, you must find words hidden in the grid. The words you are looking for are listed below the grid. Words can go horizontally, vertically, and diagonally in all eight directions.

For example, the puzzle might look something like this:

Word Search Example

| | | | | | | |
|---|---|---|---|---|---|---|
| E | Q | V | T | D | Z | T |
| X | X | P | V | T | T | H |
| N | J | A | W | W | C | Q |
| D | C | X | M | R | R | P |
| R | N | K | A | P | K | D |
| O | J | E | N | R | L | R |
| W | S | R | B | X | P | E |

EXAMPLE

SEARCH

WORD

And the answer would look like this:

Word Search Example

| | | | | | | |
|----------|----------|---|---|---|---|----------|
| E | Q | V | T | D | Z | T |
| X | X | P | V | T | T | H |
| N | J | A | W | W | C | Q |
| D | C | X | M | R | R | P |
| R | N | K | A | P | K | D |
| O | J | E | N | R | L | R |
| W | S | R | B | X | P | E |

Now you try:

Family

Q B J G R A N D F A T H E R
K Y H R W N X P D T B N Y K
D K M S D I U W R L L C K L
D K W M I N F E M R Y W Z P
T F V L C S H E D E D E R L
K A E L T T T D J H N H N D
R U E C A T N E S T Q P B A
P N R F E A H O R O H E C U
X T V G B I N K W M L N R G
M G X S N R N M L R N D K H
T J U M P Z L W K T Y F L T
W H C K G H B R O T H E R E
D L I H C D N A R G V K X R
R E H T O M D N A R G X D D

AUNT

GRANDFATHER

NIECE

BROTHER

GRANDMOTHER

SISTER

DAUGHTER

HUSBAND

SON

FATHER

MOTHER

UNCLE

GRANDCHILD

NEPHEW

WIFE

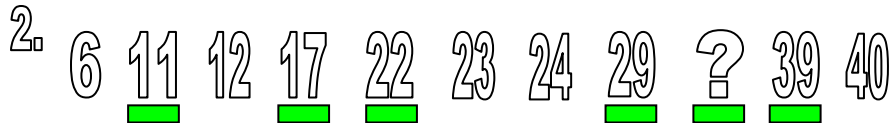
Answer:

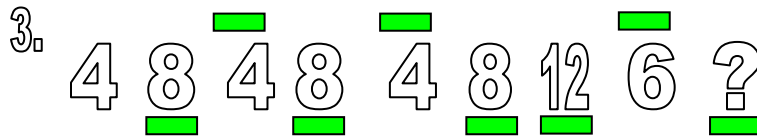
Family

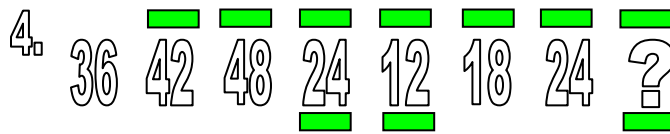
Q B J **G** R A N D F A T H E R
K Y H R **W** N X P D T B N Y K
D K M **S** D I **U** W R L L C K L
D K W M I N F E M **R** Y **W** Z P
T F V L C S H E D E D E R L
K **A** E L T T T D J H N H N **D**
R U **E** C A T N E S T Q P B A
P N R **F** E A H O R O H E C U
X T V G B I N K W **M** L **N** R G
M G X S N R **N** M L R N D K H
T J U M P Z L W K T Y F L T
W **H** C K G H **B** R O T H E R E
D L I H C D N A R **G** V K X **R**
R E H T O M D N A R **G** X D D

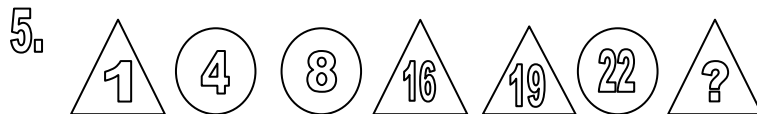
12. **Logical Series!** Each series below follows its own logical rules. Can you determine the next in each series?

1. 

2. 

3. 

4. 

5. 

- Answers:**
1. 16 – a shaded circle adds 4 to get the next number in the circle, a double circle multiplies by 2 to get the next number, and a clear circle divides by 2.
 - 2a. 34 – add five if there's a line below, otherwise add one.
 - 2b. 10 – add four if there's a line below, divide by two if there's a line above.
 - 2c. 12 – add 6 if there's a line above, divide by two if there are lines above and below.
 3. 44 – a triangle adds three and a circle multiplies by two.

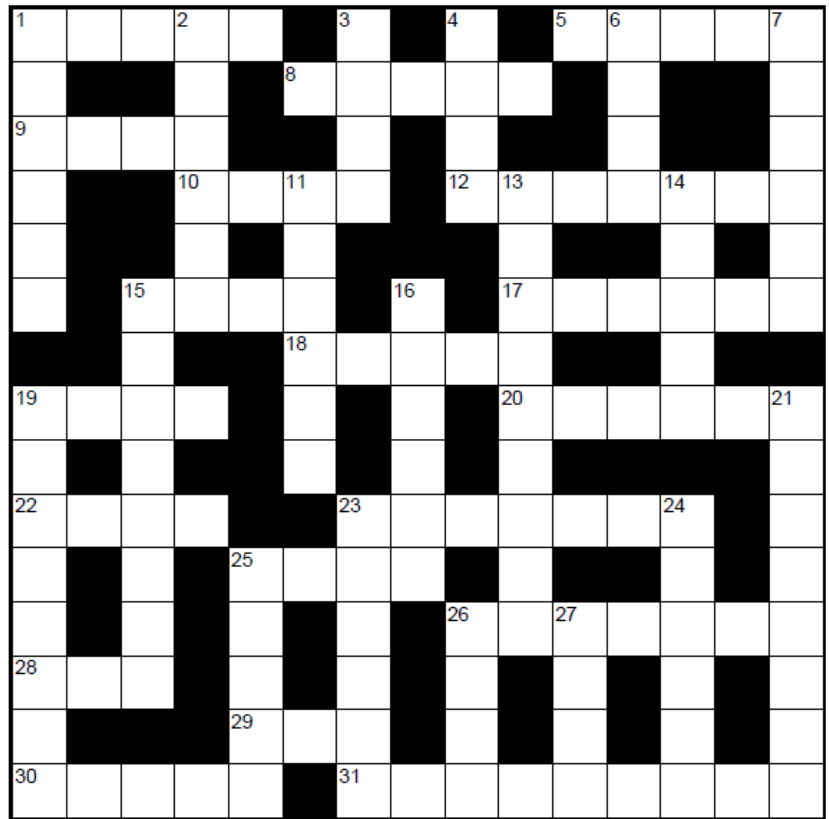
13. Vocabulary Fun

ACROSS

- 1 Just picked
- 5 School group
- 8 Whole-wheat or white
- 9 Cruel
- 10 Record
- 12 Comic strip
- 15 Individual
- 17 Backyard wear
- 18 "Shrek" princess
- 19 Storyline
- 20 Yogi Bear's nemesis
- 22 Something to skip
- 23 Tournament
- 25 Make money
- 26 School subject
- 28 Pester
- 29 Museum hangings
- 30 In the neighborhood
- 31 In the form of Humpty-Dumpty

DOWN

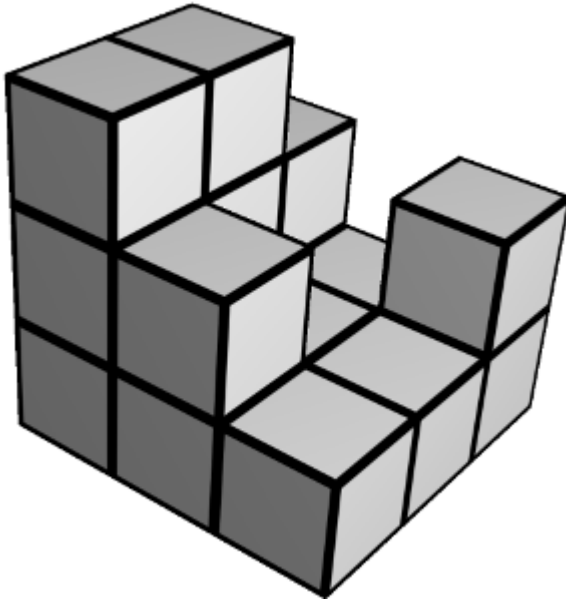
- 1 Drastic food shortage
- 2 Ice-cream parlor treat
- 3 TV's "Star ____"
- 4 Powder-puff powder
- 6 Santa checks it twice
- 7 Poem with 14 lines
- 11 Word ending
- 13 Penguins' home ice
- 14 In hock
- 15 At the mall, perhaps
- 16 Typical
- 19 How some mail is marked
- 21 Shot up like a spacecraft
- 23 Make
- 24 Garage job
- 25 Even-steven
- 26 Emulate the Jonas Brothers
- 27 React to a mosquito bite



Answer:

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| F | R | E | S | H | | T | | T | | C | L | A | S | S | | |
| A | | | U | | B | R | E | A | D | | I | | | O | | |
| M | E | A | N | | | E | | L | | | S | | | N | | |
| I | | | D | I | S | K | | C | A | R | T | O | O | N | | |
| N | | | A | | U | | | | N | | | W | | E | | |
| E | | S | E | L | F | | C | | T | S | H | I | R | T | | |
| | | H | | | | F | I | O | N | A | | | N | | | |
| P | L | O | T | | | I | | M | | R | A | N | G | E | R | |
| E | | P | | | | X | | M | | C | | | | | O | |
| R | O | P | E | | | | | C | O | N | T | E | S | T | C | |
| S | | I | | | E | A | R | N | | I | | | U | | K | |
| O | | N | | | Q | | E | | | S | C | I | E | N | C | E |
| N | A | G | | | U | | A | | | I | | T | | E | | T |
| A | | | | | A | R | T | | | N | | C | | U | | E |
| L | O | C | A | L | | | E | G | G | S | H | A | P | E | D | |

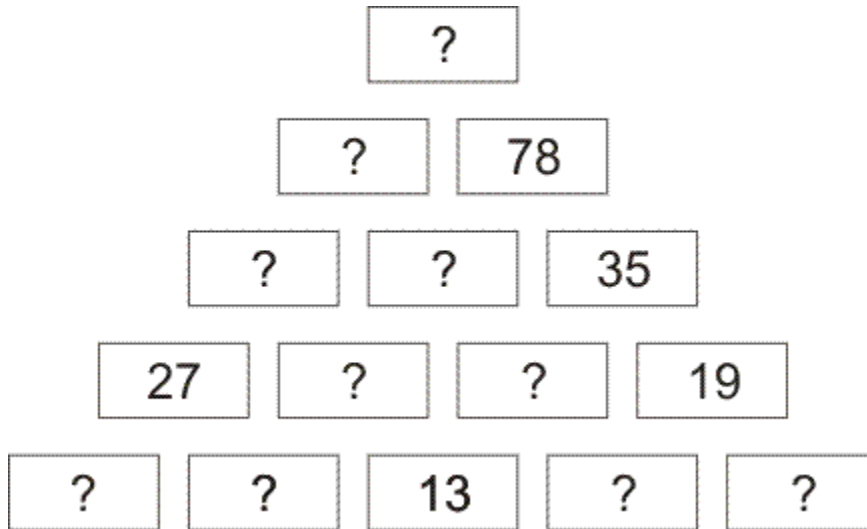
14. How many individual cubes are in the stack below? All rows and columns run to completion unless you actually see them end.



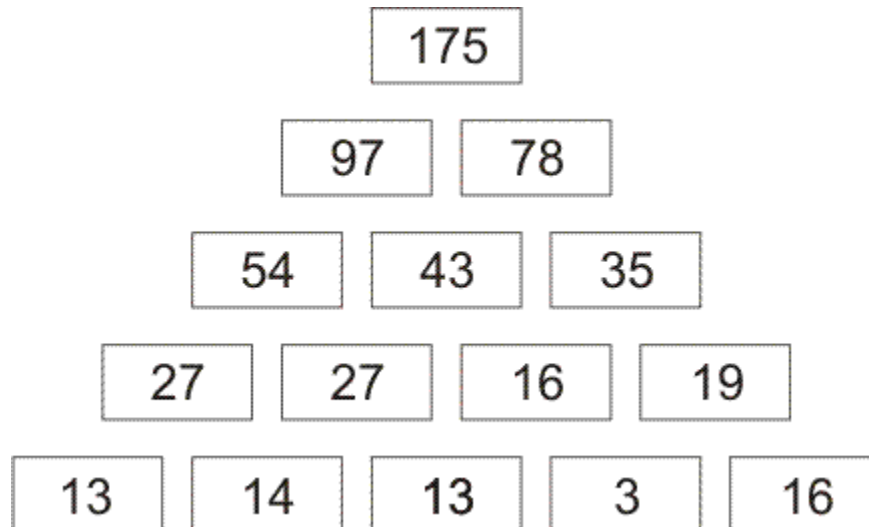
Answer: There are 16 cubes.

15. **Math Pyramid.** The number on each brick in the pyramid is the sum of two bricks below it. Some numbers are given. Can you identify the numbers that are missing from other bricks.

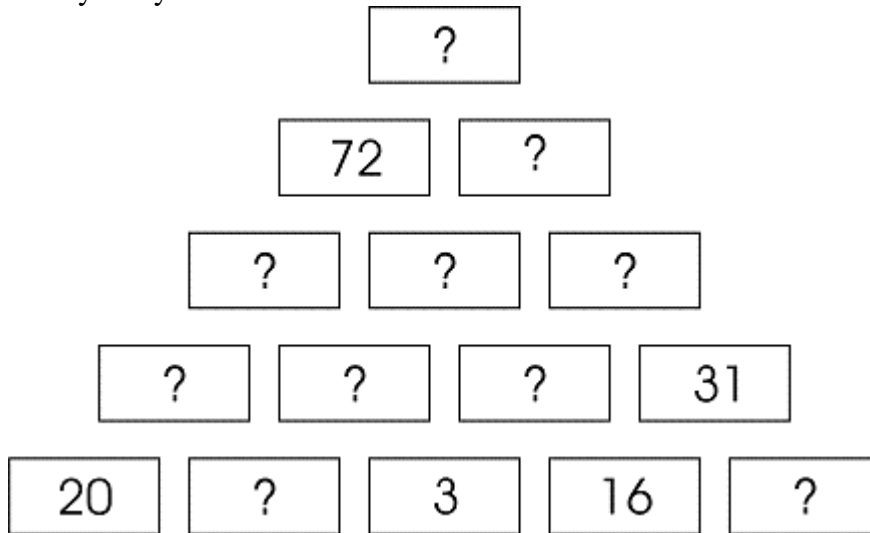
Here is an example:



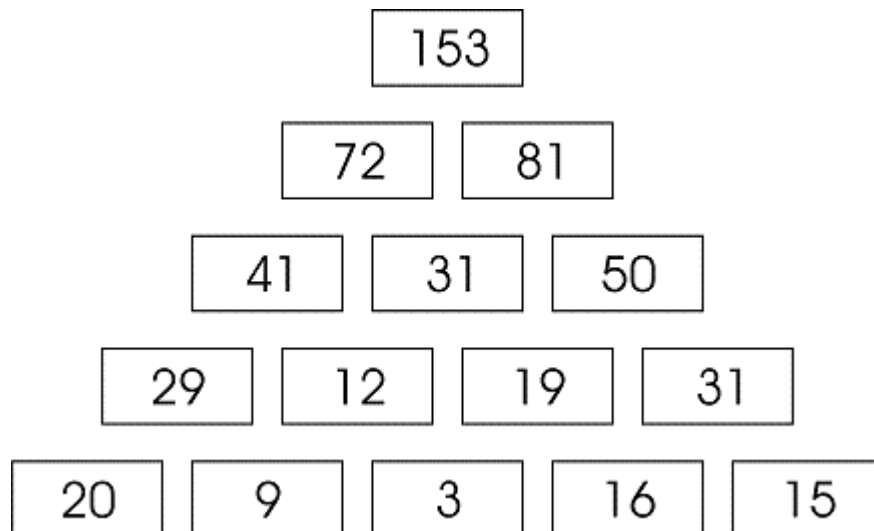
Answer:



Now you try:



Answer:

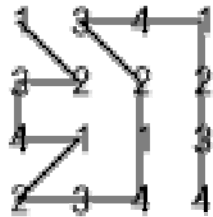


16. **Number Rout / Number Zig Zag puzzle.** Can you enter this grid from top left and come out at the bottom right corner, going through all numbers once and only once? Start with top left corner digit 1, and travel in the sequence 1,2,3,4,1,2,... until you exit at the bottom right corner. Make sure the path touches all digits once and only once. You can travel horizontally, vertically or diagonally, but the path cannot cross itself.

For example:

| | | | |
|---|---|---|---|
| 1 | 3 | 4 | 1 |
| 3 | 2 | 2 | 2 |
| 4 | 1 | 1 | 3 |
| 2 | 3 | 4 | 4 |

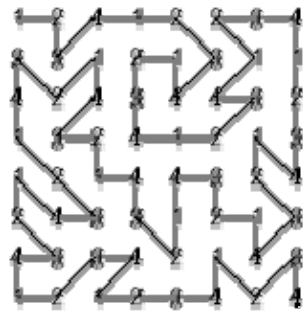
Answer:



Now you try:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | 2 | 4 | 1 | 2 | 2 | 3 | 4 |
| 3 | 3 | 1 | 2 | 1 | 3 | 1 | 1 |
| 4 | 2 | 4 | 3 | 4 | 4 | 3 | 2 |
| 1 | 3 | 2 | 4 | 1 | 2 | 1 | 3 |
| 1 | 2 | 1 | 4 | 4 | 3 | 2 | 4 |
| 2 | 4 | 3 | 3 | 1 | 2 | 1 | 3 |
| 4 | 3 | 3 | 4 | 2 | 1 | 4 | 3 |
| 1 | 2 | 1 | 2 | 3 | 4 | 2 | 4 |

Answer:



17. **Odd Rout.** Enter this number grid from top left corner, and travel through the squares by moving only through odd numbered squares to reach the bottom right corner. You can move either horizontally or vertically, but not diagonally.

Here is an example:

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 3 | 9 | 7 | 5 | 3 | 7 | 3 | 6 | 7 |
| 7 | 2 | 9 | 8 | 6 | 2 | 5 | 8 | 3 |
| 5 | 8 | 5 | 2 | 3 | 6 | 3 | 7 | 9 |
| 3 | 6 | 7 | 4 | 7 | 4 | 2 | 6 | 3 |
| 7 | 4 | 3 | 9 | 5 | 3 | 5 | 2 | 7 |
| 9 | 2 | 9 | 6 | 8 | 6 | 4 | 6 | 8 |
| 3 | 6 | 7 | 3 | 5 | 2 | 7 | 5 | 9 |
| 5 | 4 | 2 | 8 | 3 | 8 | 3 | 6 | 7 |
| 7 | 3 | 5 | 6 | 9 | 5 | 7 | 2 | 9 |

Answer:

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 3 | 9 | 7 | 5 | 3 | 7 | 3 | 6 | 7 |
| 7 | 2 | 9 | 8 | 6 | 2 | 5 | 8 | 3 |
| 5 | 8 | 5 | 2 | 3 | 6 | 3 | 7 | 9 |
| 3 | 6 | 7 | 4 | 7 | 4 | 2 | 6 | 3 |
| 7 | 4 | 3 | 9 | 5 | 3 | 5 | 2 | 7 |
| 9 | 2 | 9 | 6 | 8 | 6 | 4 | 6 | 8 |
| 3 | 6 | 7 | 3 | 5 | 2 | 7 | 5 | 9 |
| 5 | 4 | 2 | 8 | 3 | 8 | 3 | 6 | 7 |
| 7 | 3 | 5 | 6 | 9 | 5 | 7 | 2 | 9 |

Now it's your turn:

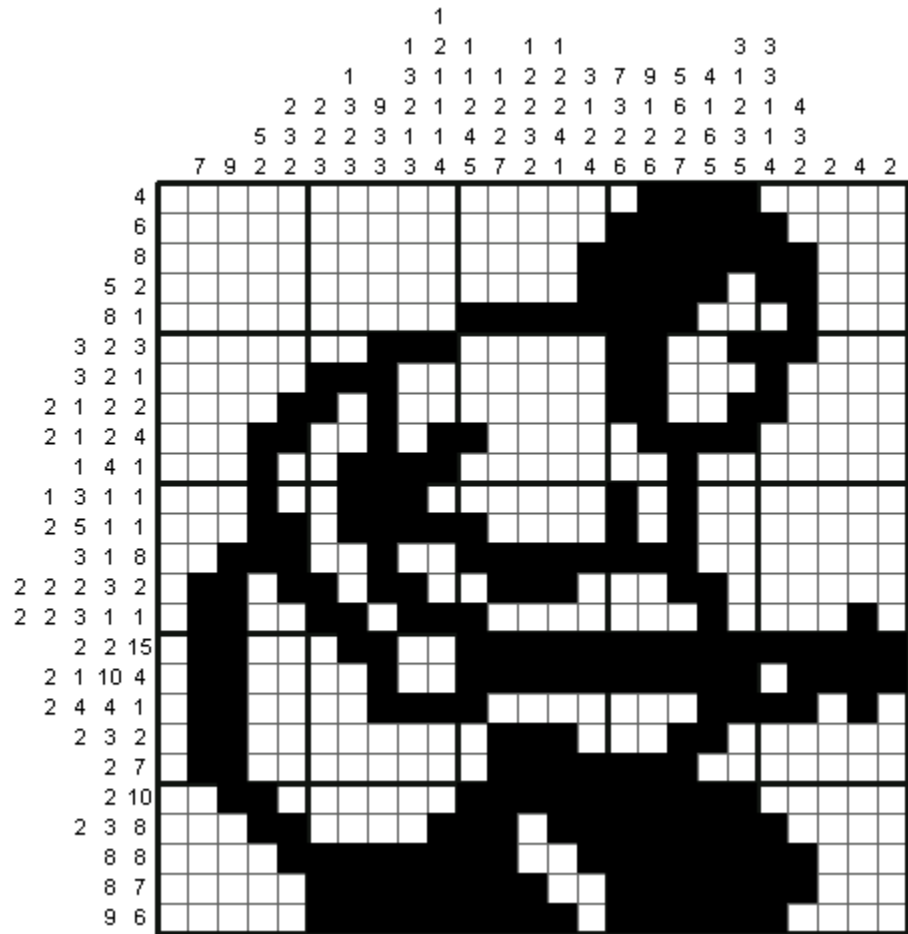
| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3 | 5 | 9 | 2 | 5 | 3 | 5 | 2 | 9 | 3 | 5 | 8 | 9 | 6 | 9 |
| 7 | 8 | 5 | 6 | 9 | 2 | 9 | 8 | 7 | 2 | 7 | 5 | 3 | 4 | 7 |
| 9 | 4 | 7 | 4 | 7 | 6 | 3 | 9 | 5 | 4 | 3 | 6 | 7 | 9 | 5 |
| 3 | 2 | 5 | 2 | 9 | 8 | 7 | 8 | 2 | 6 | 9 | 2 | 4 | 8 | 2 |
| 5 | 6 | 3 | 9 | 7 | 4 | 9 | 6 | 9 | 2 | 5 | 6 | 3 | 7 | 5 |
| 9 | 4 | 5 | 4 | 6 | 2 | 5 | 2 | 5 | 8 | 9 | 8 | 7 | 4 | 3 |
| 3 | 8 | 7 | 8 | 5 | 7 | 3 | 4 | 9 | 6 | 5 | 3 | 5 | 6 | 7 |
| 7 | 2 | 9 | 4 | 8 | 2 | 6 | 8 | 3 | 5 | 7 | 8 | 9 | 8 | 5 |
| 3 | 8 | 3 | 2 | 5 | 4 | 3 | 9 | 7 | 2 | 5 | 6 | 7 | 4 | 9 |
| 5 | 6 | 7 | 8 | 9 | 6 | 8 | 6 | 4 | 8 | 3 | 4 | 6 | 8 | 2 |
| 7 | 4 | 3 | 9 | 5 | 8 | 5 | 7 | 3 | 4 | 9 | 2 | 5 | 7 | 9 |
| 9 | 2 | 8 | 2 | 6 | 4 | 9 | 8 | 2 | 6 | 3 | 8 | 9 | 2 | 5 |
| 7 | 5 | 9 | 3 | 7 | 6 | 7 | 6 | 3 | 7 | 9 | 4 | 5 | 6 | 3 |
| 6 | 9 | 7 | 6 | 5 | 2 | 5 | 4 | 5 | 2 | 8 | 6 | 7 | 4 | 9 |
| 3 | 5 | 9 | 2 | 3 | 9 | 7 | 2 | 3 | 7 | 9 | 3 | 5 | 8 | 7 |

Answer:

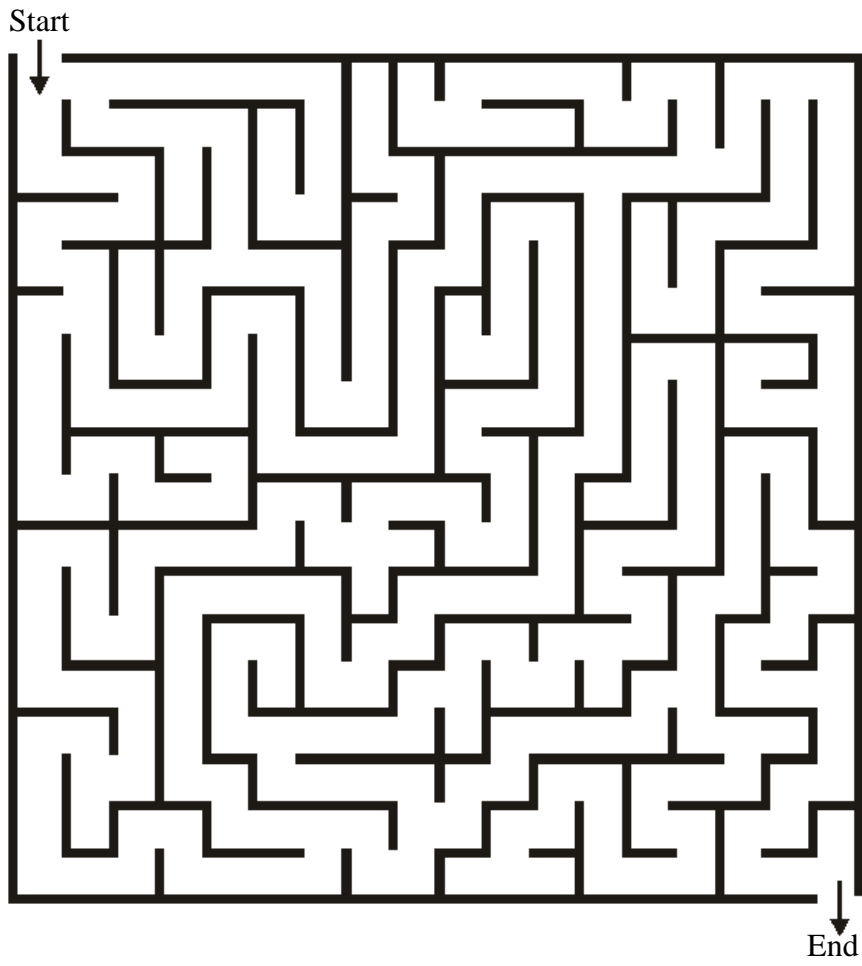
| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3 | 5 | 9 | 2 | 5 | 3 | 5 | 2 | 9 | 3 | 5 | 8 | 9 | 6 | 9 |
| 7 | 8 | 5 | 6 | 9 | 2 | 9 | 8 | 7 | 2 | 7 | 5 | 3 | 4 | 7 |
| 9 | 4 | 7 | 4 | 7 | 6 | 9 | 9 | 5 | 4 | 3 | 6 | 7 | 9 | 5 |
| 3 | 2 | 5 | 2 | 9 | 8 | 7 | 8 | 2 | 6 | 9 | 2 | 4 | 8 | 2 |
| 5 | 6 | 3 | 9 | 7 | 4 | 9 | 6 | 9 | 2 | 5 | 6 | 3 | 7 | 5 |
| 9 | 4 | 5 | 4 | 6 | 2 | 5 | 2 | 5 | 8 | 9 | 8 | 7 | 4 | 3 |
| 3 | 8 | 7 | 8 | 5 | 7 | 3 | 4 | 9 | 6 | 5 | 3 | 5 | 6 | 7 |
| 7 | 2 | 9 | 4 | 8 | 2 | 6 | 8 | 3 | 5 | 7 | 8 | 9 | 8 | 5 |
| 3 | 8 | 3 | 2 | 5 | 4 | 3 | 9 | 7 | 2 | 5 | 6 | 7 | 4 | 9 |
| 5 | 6 | 7 | 8 | 9 | 6 | 8 | 6 | 4 | 8 | 3 | 4 | 6 | 8 | 2 |
| 7 | 4 | 3 | 9 | 5 | 8 | 5 | 7 | 3 | 4 | 9 | 2 | 5 | 7 | 9 |
| 9 | 2 | 8 | 2 | 6 | 4 | 9 | 8 | 2 | 6 | 3 | 8 | 9 | 2 | 5 |
| 7 | 5 | 9 | 3 | 7 | 6 | 7 | 6 | 3 | 7 | 9 | 4 | 5 | 6 | 3 |
| 6 | 9 | 7 | 6 | 5 | 2 | 5 | 4 | 5 | 2 | 8 | 6 | 7 | 4 | 9 |
| 3 | 5 | 9 | 2 | 3 | 9 | 7 | 2 | 5 | 7 | 9 | 3 | 5 | 8 | 7 |

Tips for solving easily. First strike out the even numbered squares. Now the odd numbers will appear like a maze. Find your way through the maze.

Answer:



19.



20. **Letter Squares.** Can you find the value of each letter in the grid below? The numbers on the outside of the grid are the sum of the values for each row and column.

| | | | | | |
|----|----|----|----|----|----|
| D | E | B | E | E | 28 |
| E | C | D | E | E | 31 |
| A | E | A | B | D | 22 |
| C | B | A | E | B | 15 |
| C | A | D | E | C | 26 |
| 26 | 20 | 25 | 25 | 26 | |

Answer: A=3; B=1; C=4; D=9; E=6

21. **Kakuro.** Kakuro puzzles resemble crosswords which use numbers instead of words. The aim of the game is to fill all the blank squares in the grid with only the numbers 1-9 so that the numbers you enter add up to the corresponding clues (such as 7\, which means the numbers below must add up to seven or \9, which means the numbers directly across add up to nine.). When the grid is filled, the puzzle is complete.

For example:

| | | | | | | | | | | |
|----|---|----|----|----|----|----|----|----|----|----|
| | 7 | 14 | | 11 | 19 | | 5 | 18 | | |
| 9 | | | 3 | | | 13 | | | | |
| 4 | | | 27 | | | 27 | | | | |
| | | | 11 | | | | | | 24 | 17 |
| 12 | | | | 16 | | | 20 | | | |
| | | | 24 | | | | 6 | | 8 | |
| | | | 7 | | | 14 | | | 17 | |

Answer:

| | | | | | | | | | | | |
|---|---|---|--|---|---|---|---|---|---|---|---|
| 4 | 5 | | | 2 | 1 | | | 4 | 9 | | |
| 1 | 3 | | | 9 | 4 | 8 | | 1 | 5 | | |
| 2 | 6 | 4 | | 9 | 7 | | | 4 | 9 | 7 | |
| | | | | 6 | 9 | 5 | 3 | 1 | | 7 | 1 |
| | | | | 1 | 6 | | 9 | 5 | | 8 | 9 |

Now you try:

| | | | | | | | | |
|----|----|----|----|----|----|----|----|----|
| | 15 | 3 | 20 | | 3 | 14 | | |
| 13 | | | | 6 | | | | 12 |
| 9 | | | | 14 | | | | |
| | | | 20 | | | | | 18 |
| | 6 | 17 | | | 24 | 7 | | |
| 33 | | 26 | | | | | 13 | |
| | | | | 10 | | | | |
| 9 | | | 21 | | | | | |
| 11 | | | | | | | | |
| | | 4 | 16 | | | | 5 | 10 |
| | 11 | | | | 7 | | | |
| | | | | | | | | |
| | | 12 | | | 15 | | | |

Answer:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 9 | 1 | 3 | | 1 | 5 | | |
| 6 | 2 | 1 | | 2 | 9 | 3 | |
| | | 9 | 8 | | | 2 | 5 |
| 3 | 6 | 7 | 9 | 8 | | 6 | 7 |
| 1 | 8 | | 3 | 9 | 2 | 1 | 6 |
| 2 | 9 | | | 7 | 1 | | |
| | 3 | 1 | 7 | | 4 | 1 | 2 |
| | | 3 | 9 | | 3 | 4 | 8 |