1. Drop the last word.
2. Take an existing three letter palindrome and replace it with the three letter palindrome INI.
3. Swap the first two letters.
4. Take the first letter and rotate it 90 degrees counter clockwise. Draw a vertical line from the top left down to the bottom left corner. Replace the first letter with the letter this glyph most resembles.
5. Family matters: Take consecutive double letters and replace them with PA. Take LD and replace them with PA's wife. Take the last three letters and replace them with their male child.
6. Ants! Take the consecutive instance of the first two letters of ANTS and replace them with the last two letters of ANTS.
7. Replace $Y$ with $C$.
8. Add spaces to pass back a three letter word, a five letter word, a four letter word (a commercial product), and a three letter word in the order they appear in the string.

Replace the question marks with ANSWER PASSED TO YOU.

| $\begin{array}{\|c\|} \hline \mathbf{D} \\ \mathbf{M} \\ ? \end{array}$ | ? | $\begin{aligned} & \hline \mathbf{E} \\ & \mathbf{S} \\ & ? \end{aligned}$ | O $?$ | $\begin{aligned} & \hline \mathbf{I} \\ & \mathbf{R} \\ & ? \end{aligned}$ | O | $\begin{gathered} \mathbf{N} \\ \mathbf{G} \\ ? \end{gathered}$ | U ? | N ? | M | $\begin{aligned} & \hline \mathbf{A} \\ & \mathbf{P} \\ & ? \end{aligned}$ | $\begin{aligned} & \mathbf{N} \\ & \mathbf{O} \\ & ? \end{aligned}$ | T | A S ? | I $\mathbf{R}$ $?$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
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Create a $3 \times 3$ Magic Square with the digits 1-9 such that each row, column, and diagonal sums to the same number.


$$
\begin{gathered}
\sqrt{5-1} \\
4 \times(9-3) \\
\sqrt{2 * 5^{2}-1} \\
2^{3}-3 \\
\frac{42 \times 4}{7} \\
\frac{12^{2}-23}{11} \\
3^{2}
\end{gathered}
$$

Use the ANSWER PASSED TO YOU from each city.


Take the ANSWER PASSED TO YOU and black out the first appearance of each letter, reading row by row, left to right, top to bottom. If the letter appears twice in the ANSWER PASSED BACK TO YOU, black out the first two occurrences of that letter.

Solve the grid as a Light Up puzzle by placing lightbulbs ( 8 ) satisfying the following constraints:

- Every non-blacked out square must be lit.
- A square is lit if it is in the same row or column as a lightbulb ( $(8)$ with no blacked out squares directly between them.
- A number in a square indicates how many bulbs share an edge (not diagonally) with that square.
- No bulb may light another bulb.

| $\mathbf{T}$ | $\mathbf{C}$ | $\mathbf{E}$ | $\mathbf{M}$ | $\mathbf{L}$ | $\mathbf{S}$ | $\mathbf{1}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\mathbf{O}$ | $\mathbf{S}$ | $\mathbf{P}$ | $\mathbf{Y}$ | $\mathbf{L}$ | $\mathbf{1}$ | $\mathbf{A}$ |
| $\mathbf{C}$ | $\mathbf{U}$ | $\mathbf{2}$ | $\mathbf{T}$ | $\mathbf{R}$ | $\mathbf{V}$ | $\mathbf{I}$ |
| $\mathbf{H}$ | $\mathbf{2}$ | $\mathbf{N}$ | $\mathbf{I}$ | $\mathbf{H}$ | $\mathbf{L}$ | $\mathbf{R}$ |
| $\mathbf{W}$ | $\mathbf{P}$ | $\mathbf{U}$ | $\mathbf{0}$ | $\mathbf{E}$ | $\mathbf{F}$ | $\mathbf{G}$ |
| $\mathbf{M}$ | $\mathbf{Y}$ | $\mathbf{A}$ | $\mathbf{S}$ | $\mathbf{2}$ | $\mathbf{R}$ | $\mathbf{M}$ |
| $\mathbf{U}$ | $\mathbf{0}$ | $\mathbf{A}$ | $\mathbf{D}$ | $\mathbf{K}$ | $\mathbf{W}$ | $\mathbf{Y}$ |


|  | $\bigcirc$ | 4 |  |  |  | 6 |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 3 | 6 |  | 2 | 1 |  | $O$ |
| 2 | 6 |  |  | 9 |  |  | 3 | 8 |
|  | 2 |  |  | 8 |  |  | 1 |  |
|  |  | 6 | 6 | 9 |  | 7 | 5 |  |
|  | 3 |  |  | 2 |  |  | 9 |  |
| 9 | 5 |  |  | 1 |  |  | 6 | 4 |
|  |  | 2 | 5 |  | 4 | 9 |  |  |
|  |  | 1 |  |  |  | 2 |  |  |

