Funny Expressions

One interesting thing about the current computational study of languages is that our system has characterized several languages arising from generalizations that will probably never exist or be used on their own at the very at least. In the Chomsky Hierarchy (a famous classification setup) of languages, a regular language is one that can be recognized by a finite automation. In some sense, this means that regular languages are those where the valid words/sentences are determined by a finite set of rules on the characters that can follow other characters in a word.

Though not necessary for this problem, it'll be a fun and useful search to look up parts of the second sentence if you don't know what we said there.

A trivial example of a regular language is given by the set of all words of the form “aaaa…” where a can occur one or more times.

Of course, here we deal with funnier languages.

Consider these symbols (+,*,?) and these expressions:

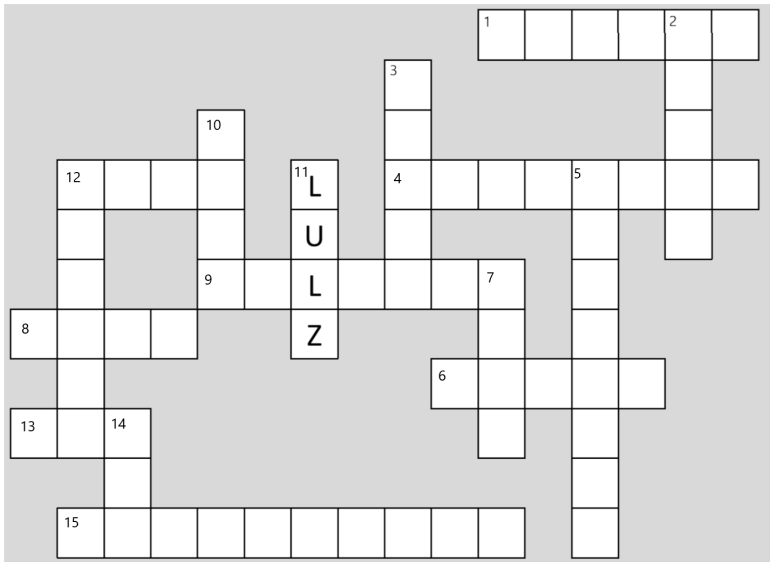
1) TX+ (or T(AH)+) means that we can have T followed by X (or AH) one or more times in this class of words
2) TX? (or T(AH)?) means that we can have T followed by X (or AH) one or zero times in this class of words
3) TX* (or T(AH)*) means that we can have T followed by X (or AH) zero or more times in this class of words

These kinds of expressions are popularly used to represent classes of words in regular languages, and are very radically named regular expressions.

Now consider this class of expressions:

L(OL)+	(HO)+	K(EK)*E	(HAR+)+
H(EH)+	ROT?FL	TE(HE+)+	LAW*L
MWA(HA)+	HE(HE)+	LO+L	HAHA*
(AH)+A+	HA+	(JA)+	

Can you fill this crossword so that each expression is represented only once?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