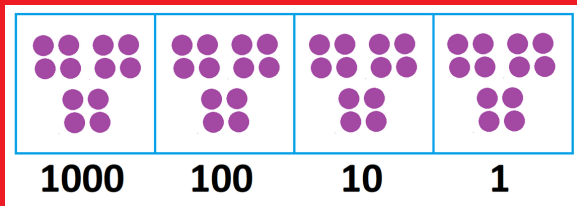


TWELVETY: Solutions

Here are the answers to the puzzles.

puzzle #1

Suppose I have twelve thousands and twelve hundreds and twelve tens and twelve ones. What number is "twelve thousand, twelve hundred, and twelvety twelve" really?



ANSWER TO PUZZLE 1:

This is the number thirteen thousand, three hundred, and thirty two.

$$12000 + 1200 + 120 + 12 = 13,332$$

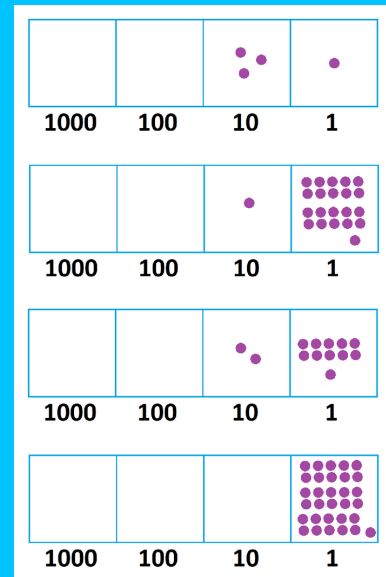
ANSWER TO PUZZLE 2:

There are twelve representations.

$$\begin{array}{cccc} 1|0|1 & 0|10|1 & 0|9|11 & 0|8|21 \\ 0|7|31 & 0|6|41 & 0|5|51 & 0|4|61 \\ 0|3|71 & 0|2|81 & 0|1|91 & 0|0|101 \end{array}$$

puzzle #2

There are FOUR ways to represent the number thirty-one in a place value chart (if you don't mind sometimes having more than ten dots in a box).



In how many different ways can you represent the number one-hundred-one?

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The NMF Weekly is written by mathematician Dr. James Tanton as a resource for friends and fans of the 2021 National Math Festival.

Learn more at globalmathproject.org/nmf-weekly & nationalmathfestival.org

