

Name: _____ Date: _____

TrickTreatTrickTreatTrickTreatTrickTreat ...

The signboard repeats the words TrickTreat over and over again.

- Will the 100th letter be in the word Trick or Treat?
- What letter will be in the 100th place?
- Explain how you figured out your answer and how you know your answer is correct.



Challenge: Which word will be the 100th word to be printed? Use the back of this paper to explain how you figured out this answer and how you know your answer is correct.

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TrickTreat = 10 letters

I need to find out what letter is in the 100th place. The sign will repeat TrickTreat 10 times because $10 \times 10 = 100$.

Since 10 letters divides evenly into 100 letters, this means that the sign will finish saying TrickTreat on the 100th letter. So the 100th letter will be the last “t” in the word “Treat”

ANSWER:

- **The 100th letter will be in the word “Treat.”**
- **The 100th letter will be the last “t” in “Treat”**
- **I know this is correct because to do these kinds of problems I always have to figure out how many letters repeat and then divide this into the total number of letters to see if there is a remainder or not. In this case, the signboard repeats a pattern of 10 letters. I divided 10 into 100 and found that it goes in evenly with no remainder. This means that the signboard will finish saying “TrickTreat” on the 100th letter. This tells me that the 100th letter will be the last letter in this saying or the “t” in “Treat.”**

Challenge: Which word will be the 100th word to be printed? Use the back of this paper to explain how you figured out this answer and how you know your answer is correct.

ANSWER:

**The signboard repeats TrickTreat over and over.
Trick will be the 1st, 3rd, 5th... word.
Treat will be the 2nd, 4th, 6th...word.**

This means that every odd-numbered word will be Trick and every even-numbered word will be Treat.

Since 100 is an even number, the 100th word to be printed on the signboard will be “Treat.”