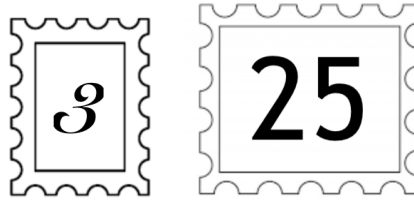


## Mathletes Problem of the Week #8

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### Mail Math



The Mathtown post office makes only 3-cent and 25-cent stamps. This is nice for the post office because sometimes you can't buy the exact right amount of postage and you have to pay more. For example, if you need 7 cents worth of postage, you can't buy exactly 7 cents worth of stamps, so you would have to pay for three 3-cent stamps instead.

- What are some other amounts of postage that you cannot buy exactly at the Mathtown post office?
- What is the largest amount of postage that you can't buy exactly?
- How many amounts of postage are there in all that you can't buy exactly?
- What if the post office made only 4-cent and 100-cent stamps? How many amounts of postage would you not be able to buy exactly then? What would the largest amount be that you couldn't buy? Explain how this situation is different from the first one.

(source: Julia Robinson Mathematics Festival)

**Solutions & Explanations:** (Try one or try them all. Record your solutions and show your thinking here and on the back!)

Name \_\_\_\_\_

Class \_\_\_\_\_

**(First and last name, please!)**

**Solutions due: January 10<sup>th</sup>**