

The Mystery of the Missing Candy

Charlie went trick-or-treating last night and brought home lots and lots of candy! He put his candy on the kitchen table and then went to bed. But when he woke up this morning, he noticed that all his candy had disappeared! On the kitchen table, there was this note:

Dear Charlie,

I have taken away all of your candy. In order to get your candy back, you must solve all the puzzles I have given you below. In each problem, you will find out more information about who I am. Write down the answer to each puzzle, and once you have solved all the problems, the answer will be clear! Good luck!

Sincerely,

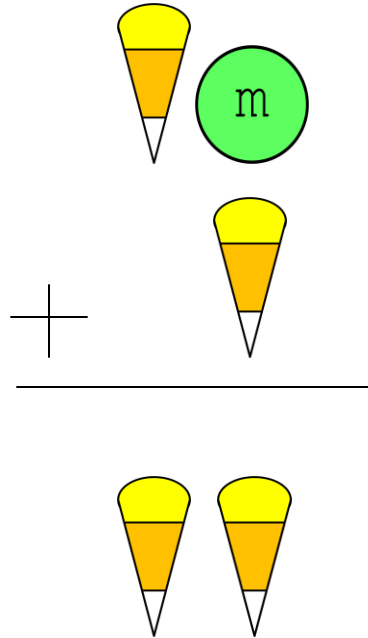
The Candy Thief

P.S. You are my brother!

Charlie is stunned that one of his siblings would steal all his candy! But he is positive that with your help, he can find out who stole his candy! So, he reads the directions for the first puzzle.

Puzzle #1:

Here's an addition problem I've created.



What number does the candy corn represent? What number does the M&M represent? Is there more than one possibility? Is your addition in decimal or binary or can both work?

Puzzle #2:

My friend Mark wants to be a clown for Halloween next year. He has 3 different types of clown pants and 2 types of clown shirts. How many possible clown outfits consisting of a shirt and pants does he have?

Challenge: What if he also has two different types of wigs? How many possible clown outfits consisting of a wig, shirt, and pants does he have?

Puzzle #3:

My friend Tom wants to trade all of his candy for candy corn because he can't eat chocolate. His friend Jerry will trade him:

- two candy corn for a Snickers bar
- three candy corn for a Milky Way bar
- five candy corn for a Reeses Peanut Butter Cup

Tom has:

- three Snickers bars
- eleven Milky Way bars
- four Reeses Peanut Butter Cups
- ten pieces of candy corn

If Tom trades away all his candy that is not candy corn, how much candy corn will he end up with?

Puzzle #4:

I was very nervous about taking all of your candy at once.

- First, I took a third of your candy.
- Then I put 10 pieces back.
- Then I got greedy and took all the remaining candy, which was 90 pieces!

How much candy did you have to begin with?

Puzzle #5:

The number of pieces of candy I got trick-or-treating subtracted from 300 equals the twice the pieces of candy I got trick-or-treating. How much candy did I get trick-or-treating? After stealing your candy, how much candy do I now have?

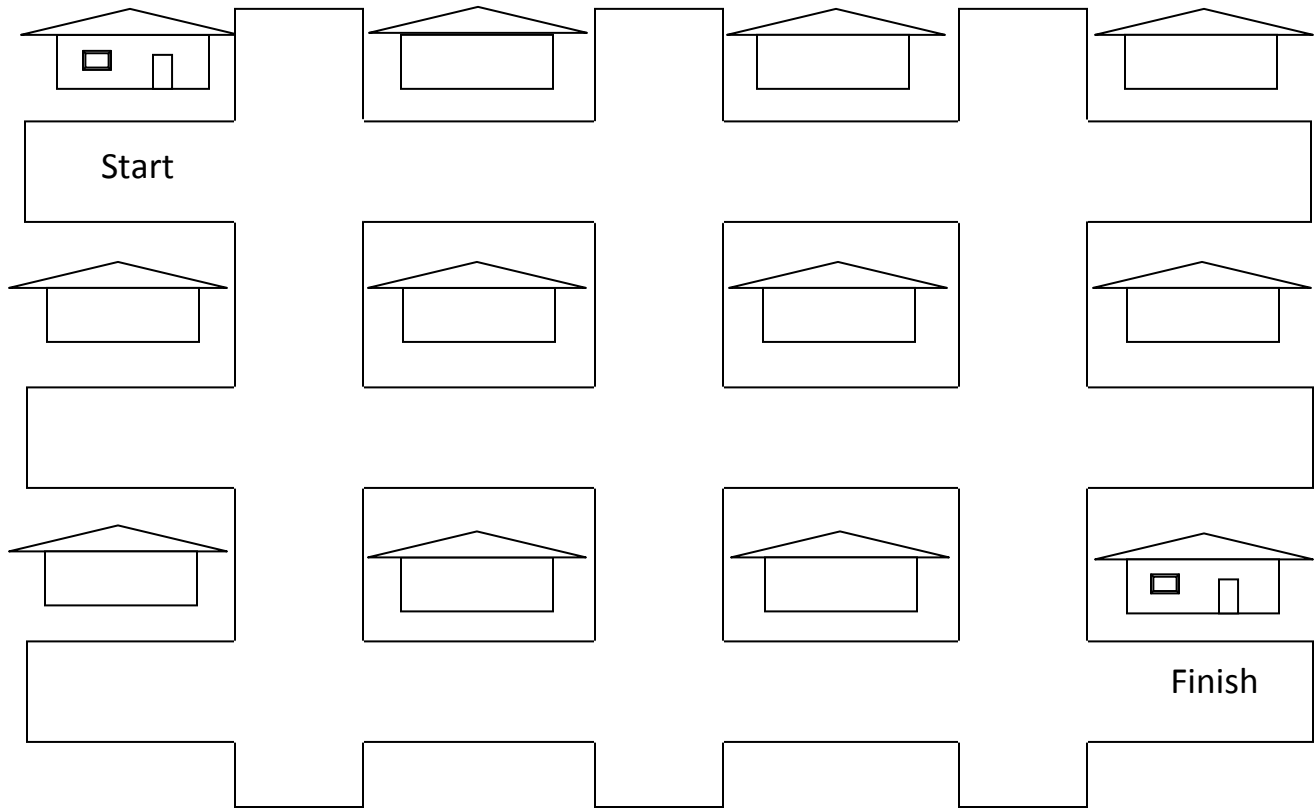
Puzzle #6:

If I went trick-or-treating for an hour and visited a different house every 360 seconds, how many houses did I visit?

Puzzle #7:

Assuming each house gave me the same amount of candy, how much candy did I get at each house?

Puzzle #8: In how many ways can you get from the house on the upper left corner to the house on the lower right corner?



Puzzle #9:

The house in the upper left corner is my friend Bobby's house. Starting at Bobby's house, him and his friends took the following route trick-or-treating:

- walked three houses east
- walked two houses south
- walked three houses west
- walked one house north
- walked two houses east
- walked one house south

Assuming they trick-or-treated at every house they walked by, how many houses did they visit twice? How do they get back to Bobby's house?

Puzzle #10:

I was so happy that Halloween was on a Saturday this year. What day of the year will it be on next year? (Next year is not a leap year, so it has 365 days).

Puzzle #11:

Today is November 1st. My birthday was exactly four weeks ago.
When is my birthday?

Puzzle #12:

My favorite number plus 2 equals twice my favorite number. What is my favorite number?

Puzzle #13:

In our family, the ages of our mother, father, you, and me add up to 80. Will our ages ever total up to 100? When will this happen?

Puzzle #14:

Our baby sister is as many months old as I am years old. If you add our ages (in years) together, you get 13. How old am I?

Puzzle #15:

I am four years older than you. You are now 8 years old. How many years ago were you half my age?

Puzzle #16:

Here's some possible suspects in our family. Based on the puzzles you solved, who am I?

Bill:

Birthday: October 4th, Favorite number: 2, Has 220 pieces of candy, Visited 10 Houses, Age: 12

Darren:

Birthday: October 4th, Favorite number: 21, Has 120 pieces of candy, Visited 10 Houses, Age: 12

Elizabeth:

Birthday: September 27th, Favorite number: 1, Has 200 pieces of candy, Visited 11 Houses, Age: 10

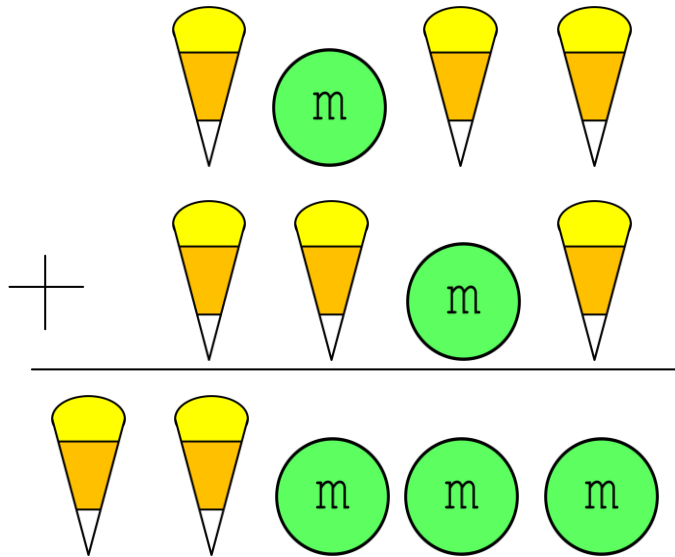
Abby:

Birthday: October 11th, Favorite number: 7, Has 220 pieces of candy, Visited 10 Houses, Age: 7

“Ok, you got me!” says the Candy Thief, “But I’ll only give you back your candy if you solve this final puzzle!”

Puzzle #17:

Here’s a different addition problem I have created:



What number must the candy corn represent? What number must the M&M represent? Are your numbers in binary or decimal? Why?