



## THE 2023 YOUNG MATHEMATICAL STORY AUTHOR (YMSA) COMPETITION

THE STUART J. MURPHY AWARD  
(THE 8-11 YEARS OLD CATEGORY)

### SHORTLISTED

'Sharing Slices' by Isabella Kooi (11 years old)  
at St Christopher's School (UK)

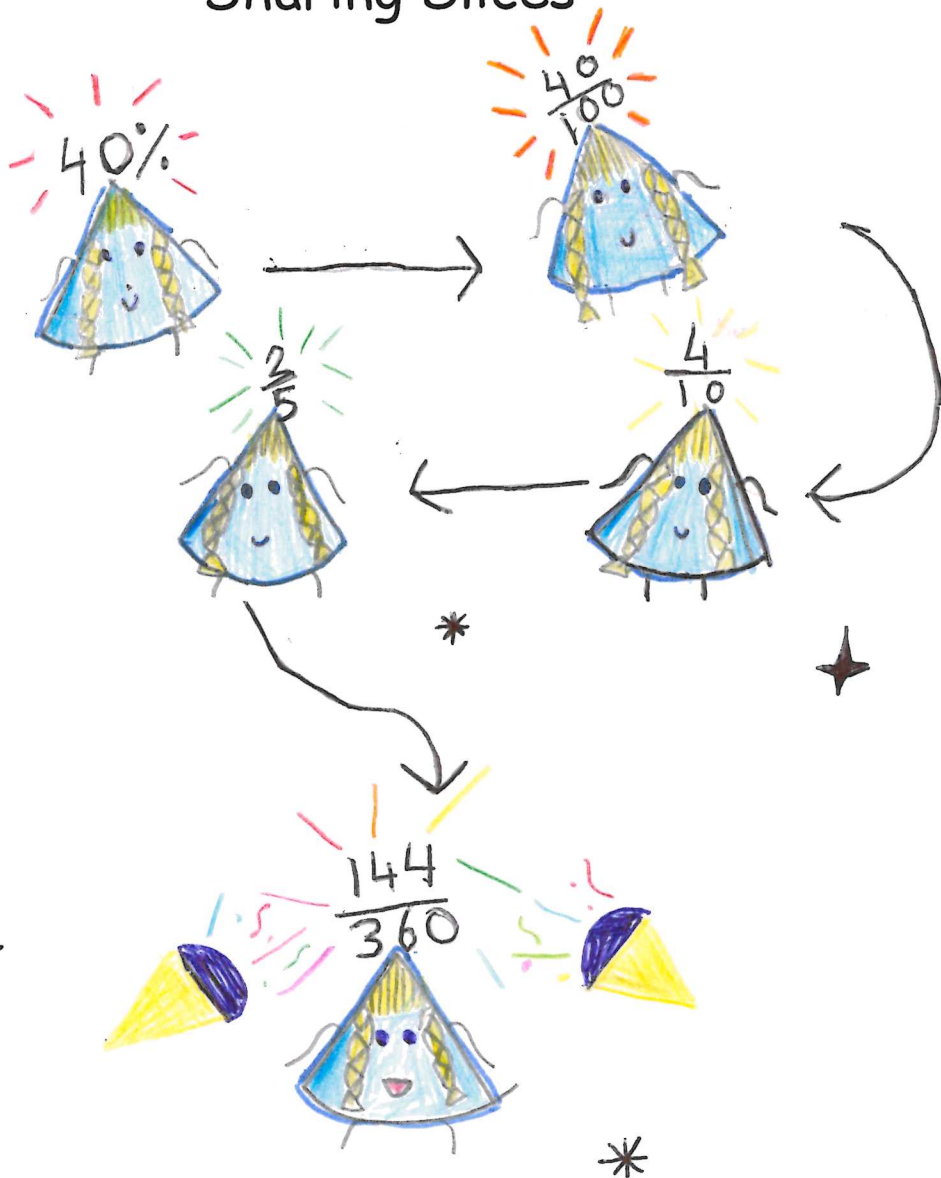
You can read the author's inspiration for the story and the judges' comments  
on:

[www.mathsthroughstories.org/ymsa2023](http://www.mathsthroughstories.org/ymsa2023)

#YMSAMaths



# Sharing Slices



By Izzy` Kooi



It's Suzie's first day at Pie Chart Prep. Five minutes ago, before she was lost, she was excited, but not anymore. She usually was bubbly and confident, but right now she had a swarm of butterflies in her stomach-no-a million swarms! Actually, that was probably the playground! Somehow, even though it was the first day, everyone already knew each other. Everyone had someone. Everyone except Suzie.

Even though everyone knew each other, Suzie wasn't deterred. Okay, maybe a little deterred. Okay, maybe totally deterred. But she wasn't ready to give up! Until the bell rang and everyone skipped happily off to class. Everyone except Suzie.



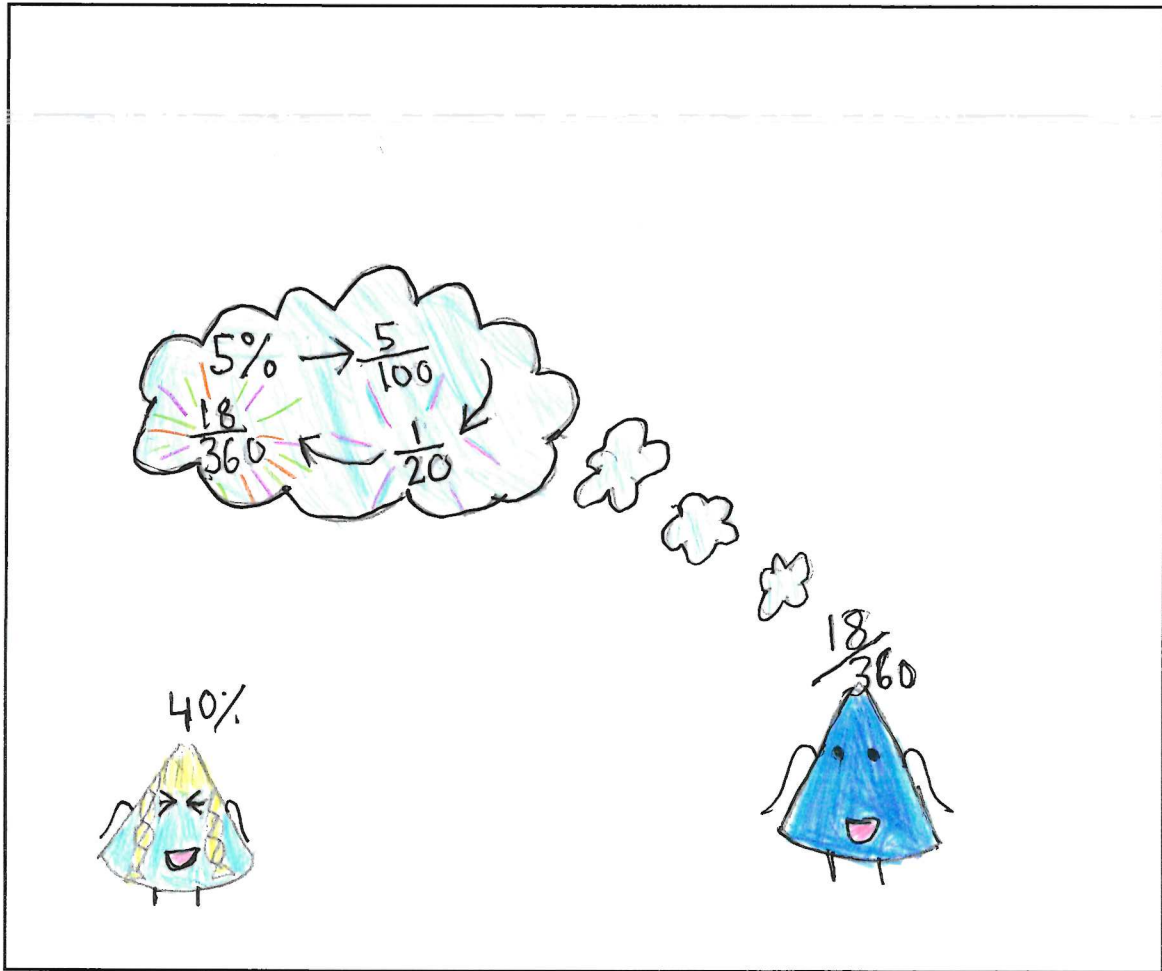
She had become very lost. Pie Chart Prep is a school where all classes are fractions measured out of 360. But Suzie's mum had only told Suzie her percentage, forgetting they were measured in fractions! Luckily, Peter( $\frac{18}{360}$ ), Polly( $\frac{36}{360}$ ), Fred( $\frac{72}{360}$ ) and Samantha( $\frac{90}{360}$ ) found Suzie roaming around the playground looking very lost.

"Hello! Are you lost?" Fred asked.

"Yes," Suzie sniffled.

"Well, what's your fraction? Then you can find your class!" Samantha added.

"That's the thing," Suzie wept, "I don't knowwww!!!"



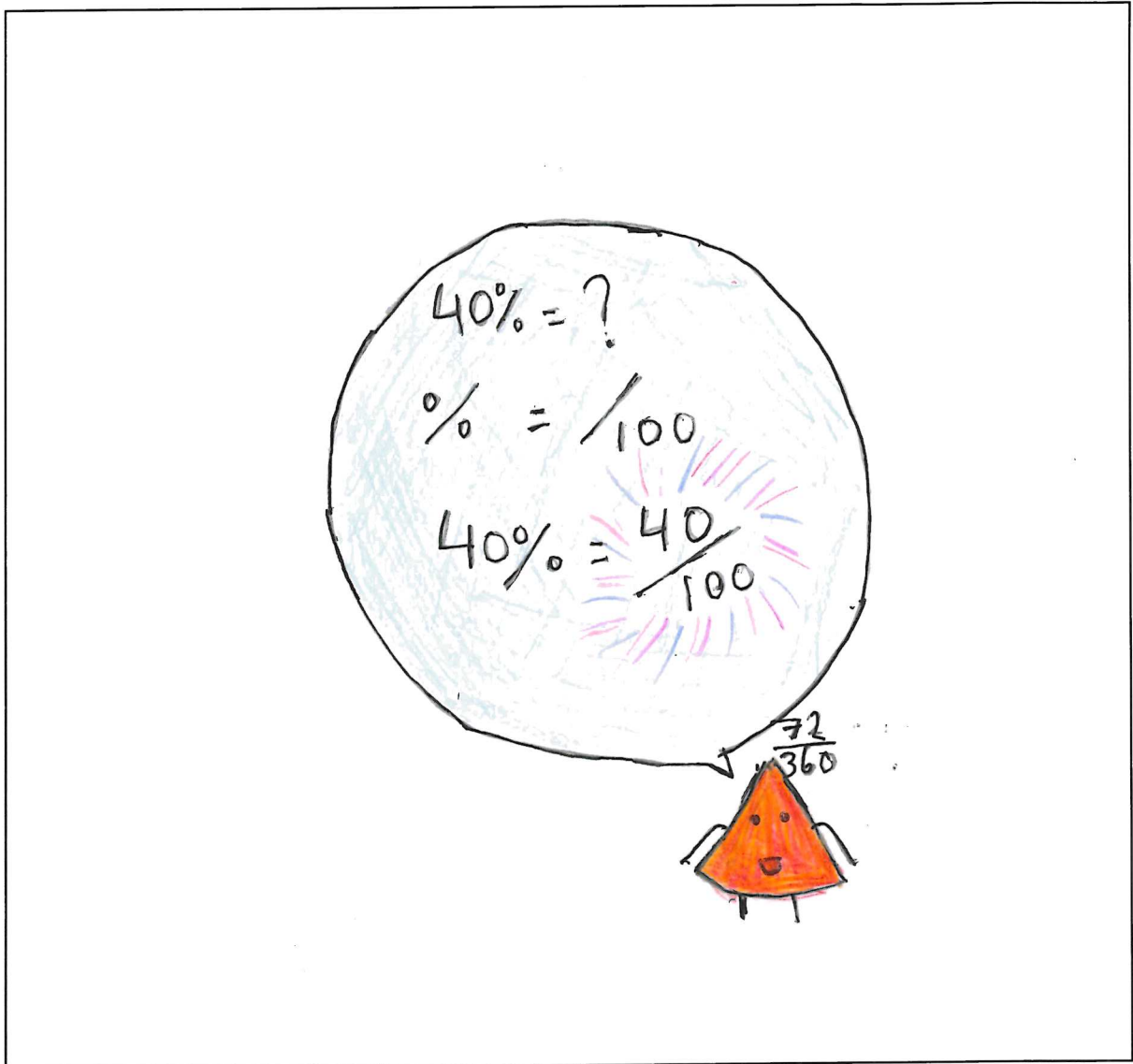
"It's okay," Polly said, "We can help! Do you know your percentage?"

"Yes, but how will that help?" wailed Suzie.

"We can convert you, and it doesn't hurt! I did it last Summer!" Peter remembered.

"You will?! Thank you, thank you!"

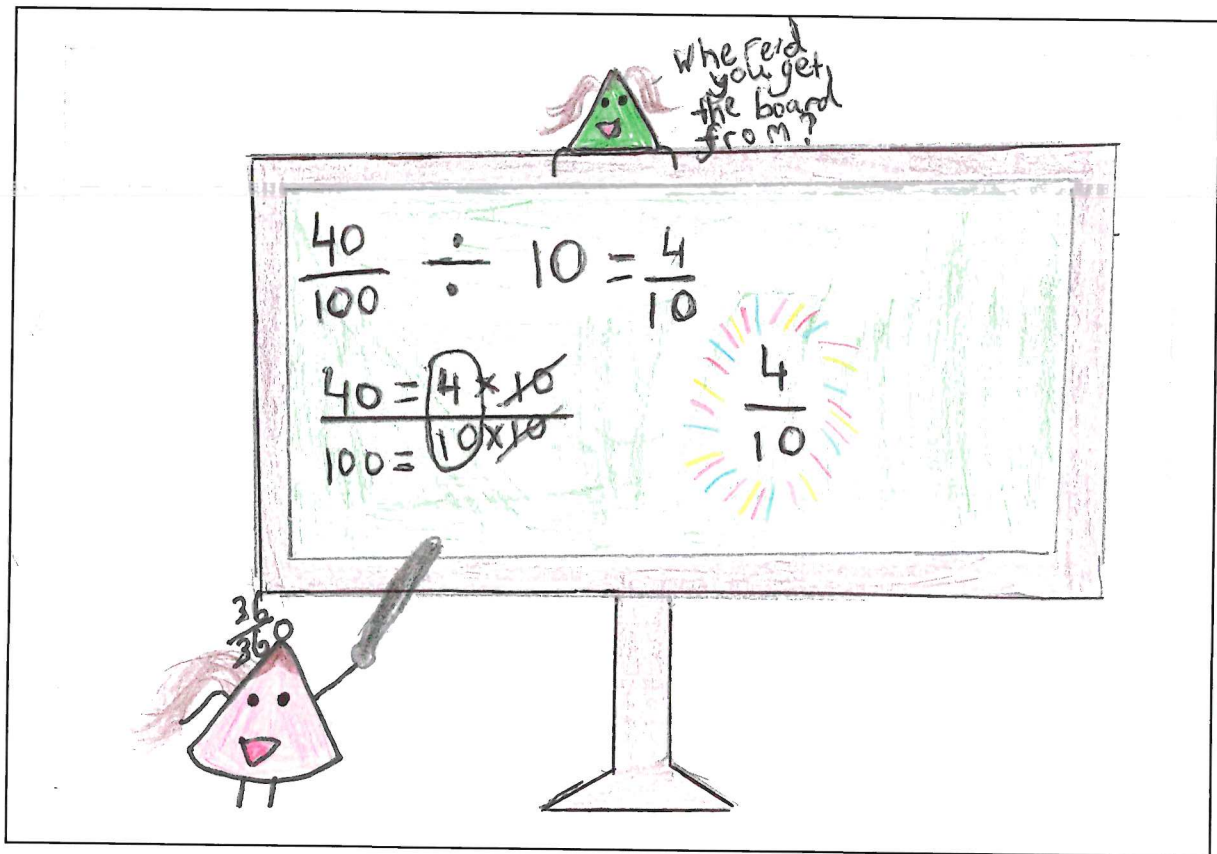
"Let's get started right away!"



"Okay, first we need to find out what classes are missing someone, and what fraction they're missing! Class One (that's ours) is missing  $\frac{144}{360}$ , Class 2 is missing  $\frac{96}{360}$  and Class 3 is missing  $\frac{112}{360}$ " Samantha said, "Now, what's your percentage?"

"I'm 40%" replied Suzie.

"Secondly, we need to turn you into a fraction over 100, so  $\frac{40}{100}$ , since percent means out of 100" Fred told her.



"Are we done?" Suzie asked.

"No, but getting closer" said Polly, "Now we need to simplify you, which means finding a number, which both the numerator (the top number) and the denominator (the bottom number) are both divisible by. In this case they are both divisible by 10, since both have at least one zero on the end, so now you're 4/10"

Fred took over, "We're nearly done" he said, as he could see Suzie squirming impatiently, "You can actually be simplified more, and we should because it's a bit easier,"

$$\frac{4 \div 2}{10 \div 2} = \frac{2}{5}$$

Fred's Fraction

$$\frac{72}{360} = \frac{1}{5}$$

$$5 \times 72 = 360$$

$$1 \times 72 = 72$$

Suzie's fraction

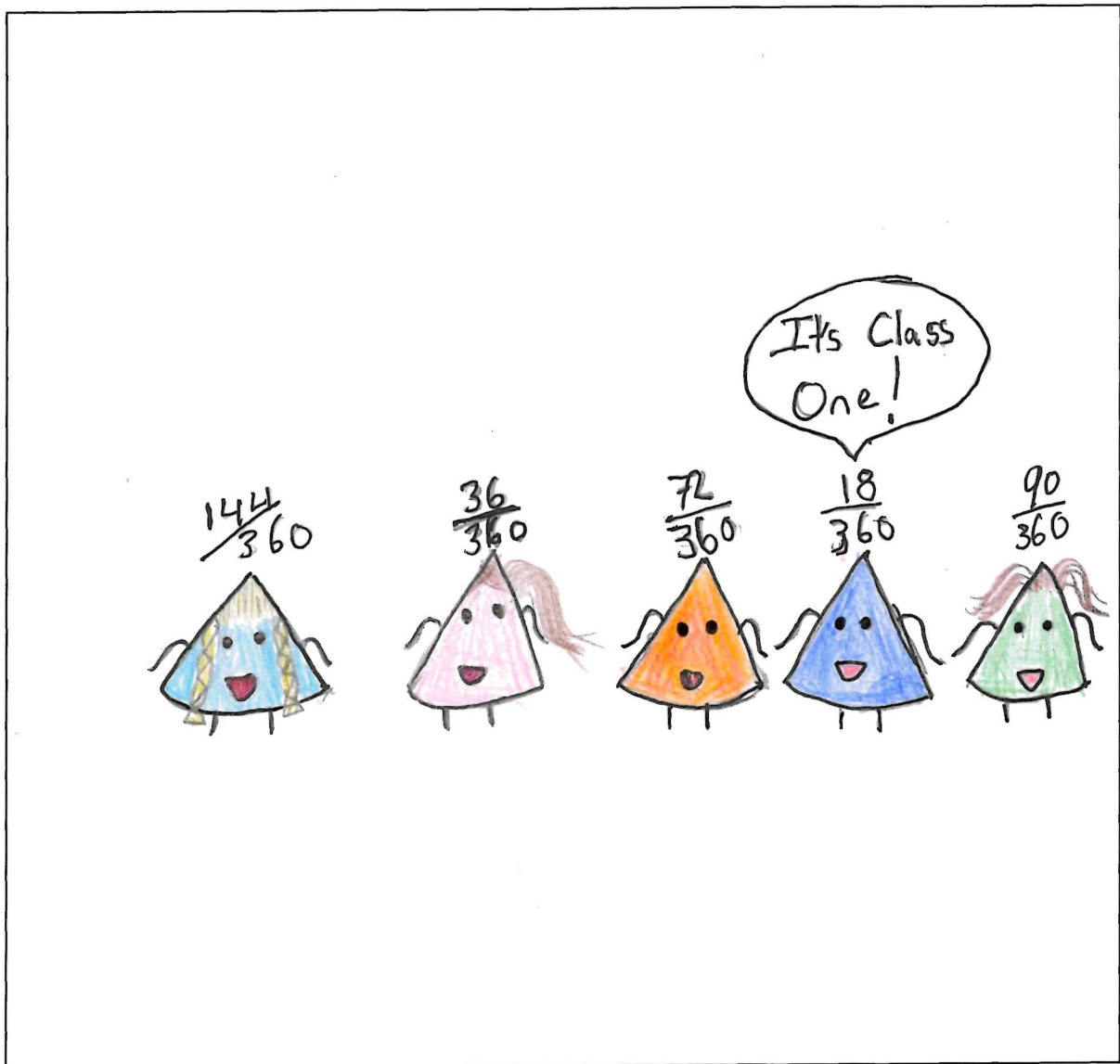
$$\frac{2 \times 72 = 144}{5 \times 72 = 360}$$

"Now you're 2 /5, since 10 and 4 are both divisible by 2, and we have to find out how many times 360 can be divided by 5, it's 72!" cried Fred.

"How do you know that?" Suzie asked.

"Well, I'm 72/360, which simplified is 1 /5 and a rule for fractions is you ALWAYS multiply the top and bottom by the same number, so 5x72=360 and 1 x 72=72, and for you 2x72=144 and 5x144=360 so you must be 144/360!"



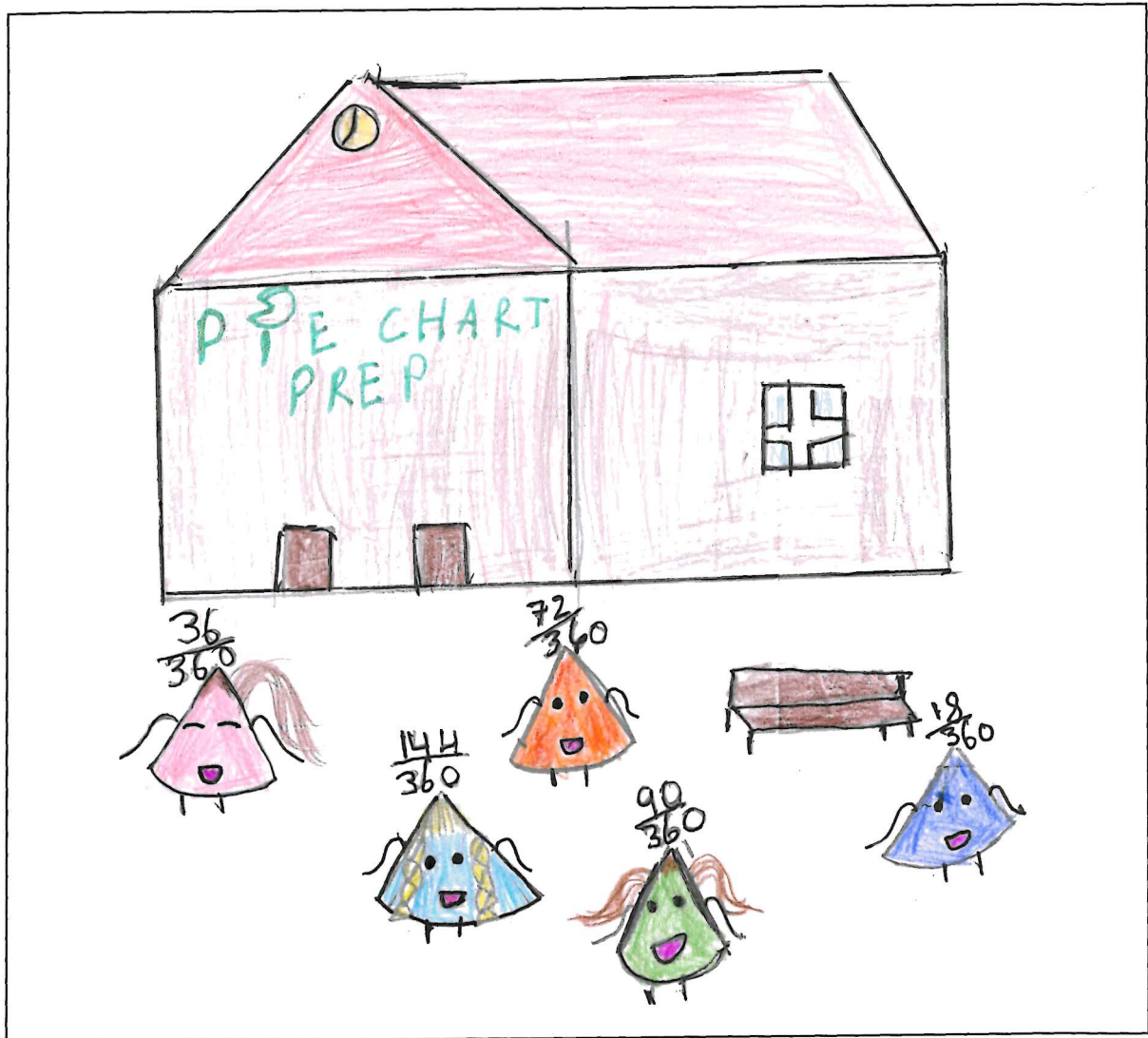


"Thank you so much!!!" Suzie squealed.

"You're welcome, but I'm kind of sad we're probably not all going to be together in the same class," Samantha said.

"Well, I'm 144/360, which class had 144/360?" asked Suzie

"Oh my Gosh! It's Class One! Our class!" they all exclaimed.



After Suzie's new friends escorted her back to Class One with Miss Graph, they introduced Suzie to everyone else and Miss Graph checked the register and Suzie was in the right class! At break Suzie, Fred, Samantha, Peter and Polly all played their favourite game - Sharing Slices - and tons of other pie slice children came to play.

## BLURB

It's Suzie's first day at Pie Chart Prep, where all the classes are measured in fractions out of 360. But she only knows her percentage-40%! Can Peter, Polly, Samantha and Fred help Suzie figure out which is her class before the day ends?

## ABOUT THE AUTHOR



My name is Izzy and I live in London with my Mum , Dad and brother. I chose this topic because I always enjoyed fitting together angles from pie charts. I used to imagine that the percentage or angle was feeling left out ,so I would always try to solve it quickly. This thought came back to me when I was coming up with ideas for my story.