

THE 2023 YOUNG MATHEMATICAL STORY AUTHOR (YMSA) COMPETITION

THE CINDY NEUSCHWANDER AWARD (THE 12-15 YEARS OLD CATEGORY)

SHORTLISTED

'Bear's Honey Business' by Prim Eamskoolnont (12 years old) at Harrow International School Bangkok (Thailand)

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

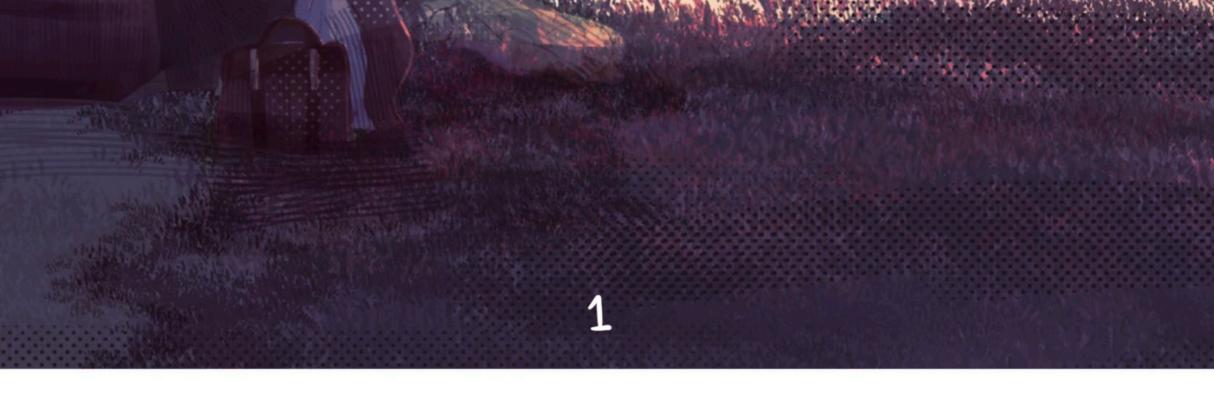
www.mathsthroughstories.org/ymsa2023

#YMSAMaths

Bear's Honey Business



Early one morning in spring, Mr Rabbit woke bright and early to go to work in the local market. He ran a very successful business selling vegetables of all kinds around the city, especially carrots. He'd been doing this for years now, and every day he returned happily from the market, satisfied with what he'd sold to eager customers. Not wasting any time, Mr Rabbit packed his briefcase, straightened out his tie and set off merrily towards the market. He planned to sell an especially large batch of carrots that day, and meet up with his friend Bear as well.



By the time Mr Rabbit had arrived at the market, his new friend Bear had already set up her stall and was waiting for customers to arrive for the day. Bear sold honey at the market, and sometimes she would gift a few pots of leftover honey to her friends after a long day of work. Even though she had only arrived a few weeks earlier, Bear's honey stall seemed to be incredibly popular!



THE REPORT IN STREET

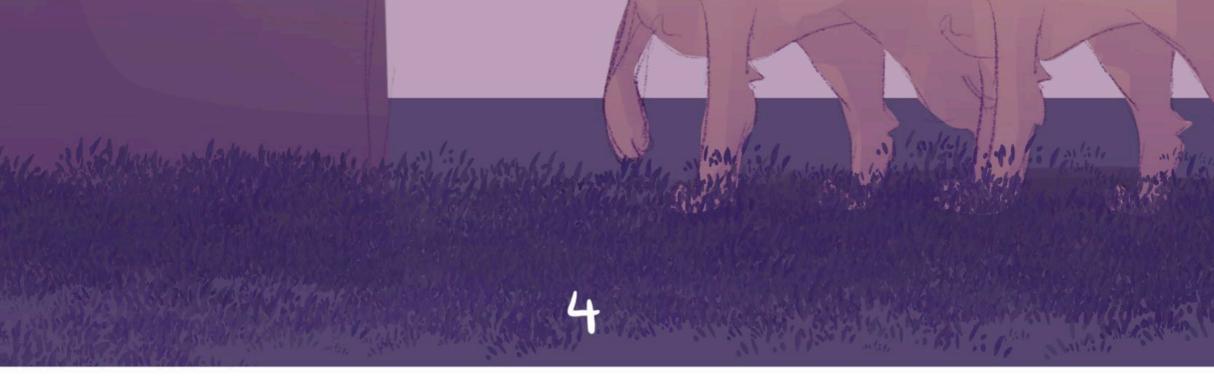
Just then, the very first customers of the day began to trickle in from all corners of the village. Every vendor quickly got to work, welcoming each customer and offering bargains. Both Mr Rabbit and Bear started their day...

...Mr Rabbit sold a bunch of carrots to a young fox...

...while Bear offered three pots of honey to a hungry family of mice.



Bear was getting ready to serve a pair of puppies who'd come to her stall. But when she reached for two pots of honey, her paws met only empty air - she had completely run out of honey! Bear felt embarrassed and sorry for the pups and promised them they'd get the first pot of honey tomorrow morning. However, she felt worried. What if this kept happening to her and she ran out of honey every day?



After the day ended and every customer had left the market for the night, Bear stayed behind to talk with Mr Rabbit. "I feel like each time I bring my honey to the market, there is either too little or too much of it. Today there was too little again - I had to turn down two puppies because I had no more left! Could you please help me?"

Upon hearing this, Mr Rabbit was more than pleased to help his friend - he knew exactly what Bear had to do.



Mean = every number added together and divided by the amount

Example:

Sunday - 28 Monday - 32 Tuesday - 49 Wednesday - 20 Thursday - 39 Friday - 40

28 + 32 + 49 + 20 + 39 + 40 = 208

208 divided by 6 = 34.6Mean $\neq 34.6$ pots

On average, Bear sells 34 to 35 pots of honey each week.

Mode = value that appears most often

Example: Sunday - 30 Tuesday - 50 Thursday - 40 Monday - 40 Wednesday - 20 Friday - 40

40 appears 3 times Mode \neq 40 pots

On average, Bear sells 40 pots of honey per day.

Median = middle value

Example:

28

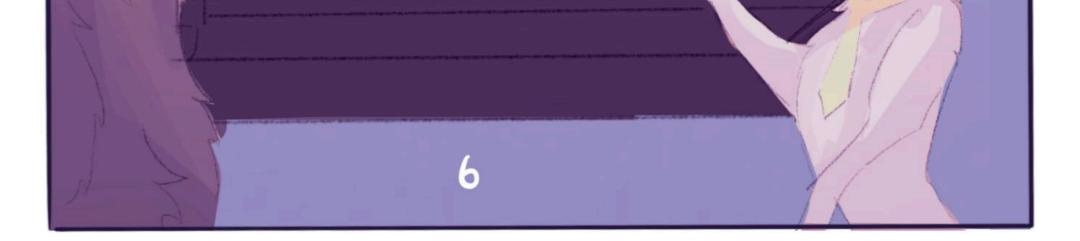
30 38

39

Sunday - 20 Tuesday - 39 Thursday - 30 Saturda Monday - 29 Wednesday - 48 Friday - 38 Arrange in ascending order:

Middle number is 30

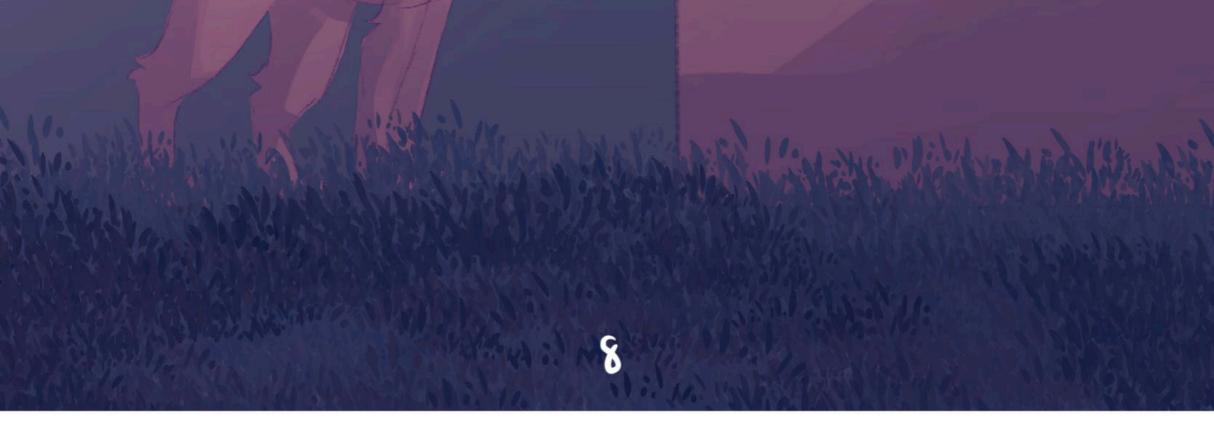
So median = 30



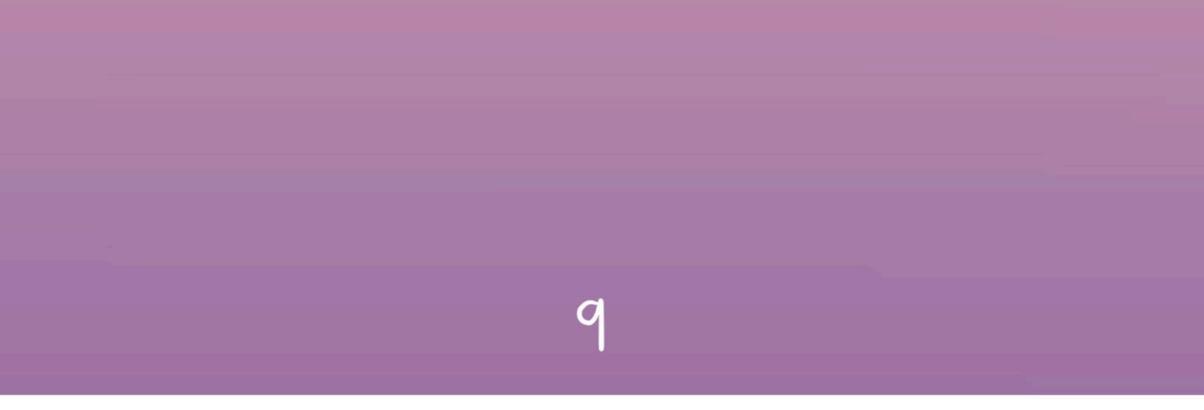
Mr Rabbit patiently explained to Bear the simple method he used for bringing the exact amount of carrots to market each day - it was quite straightforward! First of all, Bear could use the mean to calculate the overall amount of pots she sold each day. She could use the mode to calculate which days she sold the most, and she could use the median to measure the distribution by comparing it to the mean! Bear had never felt so happy - she finally had a solution to her problem. Bright and early the following morning, Bear was on her way to the market with a big smile on her face and her honey pots in a box she was carrying. After discussing with Rabbit the previous day, she felt confident that today was going to be the day she finally had the right amount of honey to sell to her customers - not too little and not too much. And it was all thanks to Rabbit's handy method of keeping track of what he sold each time! Bear felt confident and was looking forward to the day.



As customers began to trickle into the market once more, Bear looked back at the crates of honey she'd brought. Would it be too much or too little again? But Bear hadn't needed to worry. Because all of her calculations had paid off! There was just the right amount of honey pots that she sold, and not once did she have to turn down a customer that day.



After a very successful day of selling honey, Bear walked up to Rabbit and thanked him for how he had helped. Now Bear would never bring in the wrong amount of honey again, and her business would continue to grow, all thanks to the help of Mr Rabbit and his excellent method.



THE END



10

About the Author

My name is Prim Eamskoolnont, I am Thai and I attend Harrow International School Bangkok. I am currently 12 years old.



I drew inspiration for this book from a few of my favorite books as a child. I wholeheartedly believe that books about mathematics must, above all else, explain clearly to the reader a topic of interest with both visual and literary examples diagrams, for instance, may help an individual deepen their understanding of a certain topic.

