

**Maybe Math  
Isn't SO  
Tough After  
All**

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Ricky, leaning on the ledge, kneeling in his seat, gazed out the frosted window of Highview Middle School, down at the congested city streets, listening to the muffled honking of horns, as drivers tried to maintain patience during the early morning rush hour. Clusters of people briskly walked with hunched shoulders trying to repel the cold, as they made their ways to their jobs with steady determination. Looking out over the big city rush hour, he wondered how many of these people finished school, enduring countless years of math class.

Abruptly his daydreaming was interrupted by his teacher, Miss. Pendlebury, “Ricky, please sit in your seat properly and can you please answer: What is a whole?”

Oh, thought Ricky to himself, here we go again, trying to explain math. Ricky was pretty shy and didn't like it when his teacher put him on the spot. She usually did this when she could see him distracted. He hated math and couldn't see the how it applied to the real world. Not only that, what really drove him crazy, for years none of his math topics seemed to connect. Math was like a foreign language that made sense to some people but certainly not him. His face turned beat red as he tried to come up with an answer.

“ Oh, um...a whole ....is something you dig to plant a tree or something...” he replied.

In seconds the classroom was filled with 23 grade six students laughing.

“Way to go brainer!” yelled out a voice from the back of the room.

Miss Pendlebury, was not unsettled by the comment. It took a lot for this very compassionate experienced teacher to get frazzled. She smiled and responded with, “Well Ricky you are kind of right a whole is an entire thing or space, a whole in the ground is not divided, it is an entire space which eventually we fill. So can you tell me of other whole things?”

“A whole pepperoni, extra cheese, green pepper, mushroom and anchovy pizza,” smiled Ricky licking his lips and rubbing his stomach. Again, he managed to get most of the pupils in the class chuckling.

“Yes you are right Rick,” answered Miss Pendelbury. “Hmmm can you think of other wholes?”

“A donut?”

“Yep, another?”

<sup>4</sup> “A glass of milk?” grinned Ricky.

“Yes, Ricky, now can you think of something other than food, how about money?” answered Miss Pendelebury.

“Hmm, how about a dollar, a loonie, you know 100 cents, what do ya think of that one Miss P?”

“Yes you are right Ricky. Grabbing a piece of chalk, she started to draw four circles on the board. Under each she wrote one whole, one dollar, 1.0, 100 percent, a clock. A whole can be anything that is considered complete, not divided or separated.

Then without missing a beat Ms. Pendlebury started to click her fingers and recite a rhyme:

A whole is nothing more or less  
Really easy to express  
It's anything that's complete  
A coffee cup, one whole beat  
A month, a meter  
One whole litre  
A circle of 360 degrees  
A pizza topped with extra cheese  
A hundred percent  
50 bucks spent  
It's whatever ya want  
Don't let it daunt!

As soon as she finished the class broke out into applause.

Ricky piped up, “Hey Miss P, You're quite the rhyme queen!”

“Thanks, Ricky, you know it really is easy when you think that really anything can be a whole it is just up to you to decide whether it will be a whole or not.”

“Gee I never really thought of it that way.”

Suddenly Ricky felt wake and tuned into the lesson. He sat up waiting for Miss. P.’s next math insight.

“Class what happens when we take the first circle, the whole and divide it in half. Can I do this to all the other circles that I have on the board?”

Donna the class math whiz, immediately put up her hand beating out Ricky.

“Yes Donna, give us your answer.”

Donna’s excitement of pride in figuring out the answer could be heard in her confident answer, standing up as she always did when answer a question, she began, “Miss. Pendlebury, if you divide the dollar in half it would be 50 cents, if you divide 1.0 in half it is .5 or 5/10, if you divide 100 percent in half it is 50 percent, and...”

Donna took one big breath before continuing, "...if you divide a clock in half you have 12 hours" Donna then gave a big smile, looking like she had just won the lottery and sat down, glancing at Ricky with a look of beat this answer. "Wow, Donna that was an impressive answer!"

Ricky felt a twinge of jealousy that someone else was getting in on the math act. He enjoyed the new found attention he won from the teacher earlier. This sparked his competitive edge and he was ready to listen even more intently.

"If I had to figure this out on a calculator, that is dividing something in half what symbol would I press?"

Ricky and Donna stared each other down, and they both threw up their hands. Much to Ricky's frustration, Miss P. picked Donna. Ricky banged his hand on his desk, garnishing a frown from the teacher.

"You would use the division sign. May I add Miss Pendlebury, if you divide something in half you would divide by two" smiled Donna.

"Now what would you press if you were dividing a number into quarters, or thirds?" asked the teacher.

“You’d divide by 4 to get quarters and 3 to get thirds,” shouted Ricky, staring down Donna and not waiting to be invited to speak.

“You’re right Ricky, love your enthusiasm, but next time, please don’t shout out. Class, I was wondering what would happen if we took the circles on the board and divided them into quarters, what would each quarter represent? I am going to give you ten minutes in your math groups to figure out the answers to each of the circles. Class please work in your problem solving groups.”

Ricky, sighed and shook his head. “Man, I always have to work with Donna and Sue they always have the answers.” Slowly Ricky shuffled over to the group. The girls already had the chart paper out and were drawing the assigned circles. Nick was leaning back, telling a joke to his buddy John.

Ricky sat down and crossed his arms. He watched the girls alternate sharing the drawing of the circles, chattering and giggling like two budgies, oblivious to his presence. Nick finally turned around and nudged Ricky.

“Hey, are we going to play that touch football game in the snow at break?”

Ricky mumbled, “Ya, I guess so.” He turned his gaze to the work the girls were doing, noticing that they just finished dividing the circles from halves to quarters. They then began to discuss how they would start to separate 100 into four. Ricky could see an easy strategy, it was at the tip of his tongue.

“Ahhh, girls I know what to do, here give me the pen,” Ricky said taking charge, grabbing the pen from Donna’s hand. This was enough to light Donna’s anger.

“Ricky, cut it out. I don’t care what your answer is, you can’t take over. Sue and I know what is happening. When have you ever done anything in group work. You and Nick are just two joking slackers.”

Donna and Sue turned their backs on the boys and began separating the number 100 by drawing pictures. Miss Pendlebury saw the commotion and made her way over to the group.

“Guys, what is going on here? Girls are you including the boys? Boys are you getting involved? Remember this is a team effort, everybody is expected to contribute.”



“I tried but they just took over. I know I seemed like a bully grabbing the pen, but they were doing the same thing by just taking over the drawing of the pictures and assuming that they had the right answers. I know what they are doing will work out, but I know what to do to make it easier. Trust me, you know that I hate to waste time, I guess maybe you could say I’m a bit lazy.”

“So Ricky what is your idea?” asked Miss Pendlebury.

The girls rolled their eyes, crossed their arms and leaned into each other, waiting for Ricky to speak up. Nick tuned in, sitting forward, curious to see this new side of attentive and contributing Ricky.

“Miss Pendleury told us that we could use calculators, so if we took the 100 and divided it by 4, because we are dividing the circle into quarters, we will get 25, see I’ll show you.” In seconds Ricky gave the group the demonstration first punching in 100, next pressing the divide sign, then hitting 4, last to be pushed was the equal sign. The number twenty-four appeared on the screen.

Ricky continued, “Now we can do the same with 1.0 and 100 percent, the difference is going to be in the use of decimals, 1.0 becomes, .25 and 100 becomes 25 percent.”

Nick chimed in, “Hey Ricky .25 and 25 percent are the same thing aren’t they because they represent 25 out of 100.”

The girl's negative faces changed to ones of astonishment as they leaned forward taking in the insights from the boys. Miss Pendlebury was beaming with excitement to see these two lads make connections and get excited by math.

Donna turned to Sue and said, "You know what Sue, I think we have been too tough on these guys. They do know what they are doing! Hey Nick and Ricky sorry we sort of took over."

Miss Pendlebury glowed more seeing these students resolve their differences. "Okay now can you four figure out how to divide up the clock, it is a more challenging problem."

The group of four, turned towards each other and began their discussions. Magically they started to take turns giving ideas, going around the circle. In minutes they came up with an answer. They called over the teacher.

"We figured it out! You see, the face of a clock shows 12 hours. So if we divide it into quarters, or fourths, we have taken the 12 hours and divided them by four, which gives us three hours in each quarter," explained Nick. The group had drawn their diagram.

Sue piped in, "And now we know why we say a quarter to the hour or a quarter past an hour when the minute hands are on the 3 or 9, because in those positions the clock is divided into quarters."

“And when the minute hand is at the six, it divides the clock in half, so that is why we say half past the hour,” added Donna.

“Good going Donna!” encouraged Ricky.

“Wow you people have done a great job figuring out the answer. Best of all you all figured it out sharing the responsibilities, encouraging each other and problem solving not only the math but how you could all get along better. I am impressed,” nodded their teacher.

Suddenly the bell rang, and it was time for the students to move on to their next class.

“Hey everyone remember to hand in your sheets and put away the markers we will see you all tomorrow when we tackle relating percents to dollars.”

Ricky passed the markers to Donna. Usually Donna would ignore Ricky, but this time she made eye contact and said, “You know what Ricky, you know a lot more about math than I thought. That was pretty cool the way our group managed to get our work done, seeing that we usually fight.”

“Thanks. See ya later.” Ricky turned and for the first time he didn’t feel so dumb in math. He took a deep breath and walked out into the hall feeling pretty proud and thinking that maybe math wouldn’t be so bad the next day.