7th math story - ratios and proportions

TK was curious what the ratio of paying attention to not paying attention in his math class was. He had Mr. Derek do some observations and found out the ratio was 1 minute of paying attention for every 4 minutes of not paying attention. TK thought to himself, that is 12 minutes out of every hour, better than last year! Mr. Derek mentioned that one student had not paid attention at all but had, instead, watched a snail crawling up the window. The student notes that it took the snail 10 minutes to cross one window. Since a window is 3 feet tall, the student calculated that the snail was traveling 18 feet/hour. TK asked the student how long it was taking the snail to travel a foot. The student said: 1 hour: 18 feet is ? : 1 foot. I divide by 18 to go from 18 feet to 1 foot, so the ratio must be 1/18 hour : 1 foot. 1/18 hour is between 3 and 4 minutes.

TK decided to create a math love potion so that students would pay attention in class. He put five triangles of reishi mushrooms in a cauldron for 3 every three ounces of ginger root. Altogether he had 60 ounces of ginger root, 20 times the basic ratio, so he knew he had to cut 100 triangles of reishi mushroom. TK sprinkled the potion on the popcorn of the students. Afterwards, he observed students paying attention 1.01 minutes for every four minutes of not paying attention. Mr. Derek pointed out that the .01 was just a measurement error and that the math love potion had had no effect.

TK decided he needed more mindfulness in his life. He wondered about the unit rate of his breathing during the mindfulness session at the beginning of the lesson. He measured his unit rate as 4 breaths per minute or 15 seconds per breath.

The students were wondering whether studying for the test improved their score. An experiment was conducted. It was found that test scores improved 11 points for every 2 hours studied. Dividing by 2, that gave a unit rate of 5.5 points improvement per hour studied. One student just wanted a single point of improvement and wondered how much he would have to study to gain that point. TK said: "Flip the ratio over and solve for one point. 2 hours : 11 points = ? hours : 1 point   Going from 11 to 1 is divided by 11 so divide 2 hours by 11. Study 2/11 hours to improve by a point. An 11th of an hour is between 5 and 6 minutes so 2/11 would be between 10 and 12 minutes.

During the recent Friday test, 25 8th graders could connect to the Internet while 6 8th graders could not. That ratio of 25:6 meant that 4 ⅙ students could connect for every student who could not connect.

TK noticed that the brief meeting before going to the whiteboards appeared to be painful for some students. Attempting to quantify this, he measured 3 groans per minute. He flipped this over to find the unit rate in terms of time per groan, and got ⅓ minute (i.e. 20 seconds) per groan.

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While at carpool, TK wondered about the ratio of SUVs to minivans, minivans having fallen out of fashion at Sterling in the last few years. He counted 20 SUVs and 3 mini-vans. That came out to 6 ⅔ SUVs for every mini-van.