

Episode 3.2

Students are having trouble with the problem, *If it takes a printer 20 minutes to print 400 stickers, how long will it take to print 1100 stickers?*, and the teacher suggests a simpler version. He is at the front of the room addressing the entire class while various students respond.

1. T: If it takes a printer 20 minutes to print 400 stickers, can you tell me how many stickers it could print in one hour? 1200, why?
2. S*: [inaudible]
3. T: You multiply 20 times 3. You recognize that there's 60 minutes in a hour, so 20 minutes is $\frac{1}{3}$ of that. You multiply 20 minutes times 3. So what you're talking about, we got a name for that in Math. What do we call that? When two numbers are compared to each other. Three is to four? I got [pause] I've got a portion of a dollar here, right. I've got $\frac{1}{4}$ of a dollar. What do we call that? What do we call that $\frac{1}{4}$?
4. S*: A quarter.
5. T: You're right. What do we call that comparison of numbers. One to four.
6. S*: Ratio.
7. T: A ratio... Can we make, and by the way we combine two ratios together, that's called a ratio is equaled to something else. What do we call that?
8. S*: Cross-multiply?
9. S*: Fractions?
10. T: Well, they are fractions. We cross-multiply to solve it, but what do we call this, this is called a [pause] It starts with a p? Starts with a pr? Pro-? You're a tough crowd folks, prop, proportion.
- (...)
11. T: Now, what did you tell me before when I asked you to figure out how many, how many stickers could be printed in an hour? Why? What was the ratio?
12. S*: [inaudible]
13. T: Yeah, but how did you get that? How did you figure it out? What was the ratio you used?