Since I'm a Veritas Prep GMAT instructor, my toddlers get the benefit of listening to bedtime stories with verbal, quantitative and integrated reasoning themes (those lucky kids). One of my son's favorite stories is about **Ratio Land** and **Value Land** –– two lands that coexist peacefully but that are separated by steep cliffs and a wide river. For those of you who need a ratio refresher…remember that ratios provide us with a proportional relationship between two or more variables, without giving the actual value of those variables. The fact that ratios don't provide us with the actual values explains the gulf between the two Lands.

While this separation between the two Lands can be problematic at times, it's worth noting that there are still lots of interesting things to do while having a staycation in Ratio Land. The GMAT testmakers could ask us to do many interesting things while in Ratio Land and we'd be fine:

Say that there are a set of balloons of 3 different colors, and we know that the ratio of blue, green, and pink balloons is 3:4:5. If the GMAT testmakers asks us to double the number of blue balloons and halve the number of green balloons, we'd be fine. Why? Because we started out in Ratio Land and we're being asked to stay there – no need to travel to the other side to Value Land to answer this question. Double the "3" to "6", and halve the "4" to "2", and we'd have the updated ratio of 3:2:5. **Conclusion:** If you are asked to make proportional changes to a starting ratio, you can determine the resulting ratio without ever needing to know the actual values.

The difficulty occurs, however, when you're asked to travel from one Land to another…

Let's take the blue:green:pink 3:4:5 balloon example above. What if the question was to determine the new ratio when we add 20 blue balloons to the mix?

Sorry — now we can't do it! Instead of staying safely in Ratio Land, we're being asked to jump over to Value Land (through the addition of those 20 blue balloons) and back. Simply put, there's no way to travel without a "bridge", which in almost all cases needs to be an actual value of one of the parts of the ratio. When the ratio was 3:4:5, we don't know if there were 3 blue balloons — in which case the addition of 20 blue balloons would make an enormous difference in the new ratio – or if there were 30,000 blue balloons, in which case the addition of 20 blue balloons would barely budge the new ratio. **Conclusion:** One can't move from Ratio Land to Value Land without knowing the value of at least one part of the ratio.

The silver lining is, once we do know the value of one part, we can tromp all over Value Land! In our blue:green:pink 3:4:5 balloon example above, let's say we find out that there are 10 pink balloons. Great! We know then that our "multiplier" is 2. (In other words, we multiply the "5" in the original ratio by our multiplier "2" to get to "10" pink balloons.) But wait, we know even more, right? We know that there must be 8 green balloons, 6 blue balloons, and a total of 24 balloons in our original ratio. Knowing one part unlocks all of the other parts.

Not only have I been able to share my approach to ratios with you, but I have also been able to get my son to drift off to sleep, murmuring about blue balloons – a double success!