

MATH 1000 IN-CLASS ACTIVITY 5

MONDAY, JANUARY 29

Instructor: Alex Rice

Name:

These discussion topics were inspired by the Chapter 4 of *How Not to Be Wrong* by Jordan Ellenberg, titled “How Much is That in Dead Americans?”.

The following are the details of an actual dispute over the sale of inherited land, brought to me (Alex) for analysis and assistance by a close friend a few years ago. Only the names have been changed.

A man named John owned a parcel of land in North Carolina. When John passed away, his will stipulated that ownership of the land would be distributed equally amongst his three children, Alice, Bob, and Eve.

When Alice passed away, she willed her portion of the land to her only child, Michael.

When Bob passed away, his will stipulated that ownership of his portion of the land would be distributed equally amongst his three children, Eric, Russell, and Julia.

When Eve passed away, her will stipulated that ownership of her portion of the land would be distributed equally amongst her three children, Allen, Elizabeth, and Jane.

About two years ago, John’s grandchildren, all still living, decided it was time to sell the land and split the proceeds according to their respective ownership stakes. However, it was revealed that, several years prior, Russell had already sold his portion of the land. This complicated the manner in which the sale price on the remainder of the land would be distributed amongst the other 6 grandchildren.

Eric's Interpretation: Eric believed that he should not be detrimentally affected by his brother's earlier decision to sell. Since Russell is no longer entitled to any proceeds from the sale, Eric believed that the land equity should be computed as if his brother, and the land he sold, were never part of the discussion at all. In particular, since his family was willed one third of the land, he and his sister should split one third of the sale price of the remaining land, or $1/6 \approx 16.67\%$ each. In his mind, this was the only way for him to get his "fair share".

Do you think Eric's interpretation is "fair"? Putting aside the nebulous issue of "fairness", is Eric's interpretation legally correct, meaning is it consistent with the terms of the wills of all the deceased family members? If not, what are the flaws in his logic and how can we fix them? What really is the right percentage of the proceeds of the sale of the remaining land for each grandchild to receive?

Suppose you found a startup company with some help from your aunt. She provides you with some access to capital, a workspace, and materials, in exchange for a 25% stake in your company.

As your company grows, you seek out some venture capital. A firm offers you \$100,000 for a 40% stake in your company, and you accept the offer. What does the equity table (who owns what percentage) for the company look like now?

Interpretation 1: Your aunt's initial contribution was in exchange for 25% of the company, always and forever. Therefore, since you accepted the \$100,000 in funding in exchange for 40% ownership, the table is now:

Aunt: 25% VC Firm: 40% You: 35%

Interpretation 2: Your aunt's initial contribution was in exchange for 25% of the company as it existed then between the two of you. Since the \$100,000 of funding expands the company, we think of the 40% owned by the VC firm as separate from that initial agreement, so your initial agreement with your aunt applies the the remaining 60%. As a result, the table looks like this:

Aunt: 15% VC Firm: 40% You: 45%

Which interpretation is "right"? Which is "fair"? Discuss how this issue is dealt with in real life.