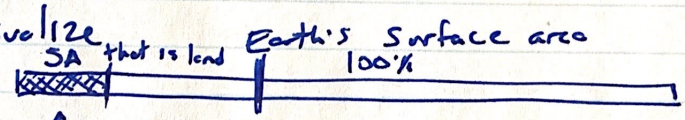
Math 8 8.4 Combined Percents & Percent of a Percent
Pg 280 - 285

Focus: I will learn to
- use multiple strategies to solve problems involving combined percents and percents of percents.

Example 1 Apply Percent of a Percent.
Only about 29% of the total surface area of the Earth is made up of land, and only about 38.4% of this land is agricultural. Approximately what % of Earth's total surface area is agricultural.

Visualize


↑
This represents the amount of agricultural land globally.
This represents a percent of a percent.

Answer
Assume 100% is all the ~~land mass~~ surface area of the earth therefore we will say that all the surface area of the earth = 100

How much surface area is land?

~~100 x 2~~ 29 % of 100% = 0.29 × 100 = 29 %
↑ ↑
% of SA that is land — amt of global SA

38.4 % of the ~~SA~~ SA of the land is agriculture
38.4 % of 29 = agriculture land
0.384 × 29 = 11.1 %
11.1 % of all global surface area is agricultural

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Example 2: Combine Percent Increases and Decreases

The number of students at a school is currently 1200. School officials predict that the number of students will increase by 9% next year then drop by 12% the following year. How many students will be at school two years from now.

* For a problem like this, you cannot just combine your percents (100% + 9% - 12% ≠ 97%)
* You must calculate ~~each~~ each step seperately.

9% of 1200 students joining
0.09 × 1200 = 108 new students

new student pop'n for the ~~first~~ first year
1200 + 108 = 1308
original increase students after year 1

year 2
12% of 1308 = students leaving
0.12 × 1308 = 157 students leaving

year 2 students total 1308 - 157 = 1151 students in year 2

If I go 100% + 9% - 12% = 97%

97% of 1200
0.97 × 1200 = (1164)

Not the same number.

Check pg 282/283 for 2 other methods but this method is most straight forward.

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Practice Q's 8.4 Pg 284-285

- # 1-5 ALL
- # 7-8, 10
- # 14 Challenge.