

8.4 Combining Percents

Example 1: Percent of a Percent

Only about 29% of the total surface area of the Earth is made up of land, and only 38.4% of this land is agricultural. What percent, to the nearest tenth, of the Earth's surface area is agricultural?

$$\begin{aligned}
 & 38.4\% \text{ of } 29\% \text{ of} \\
 & 0.384 (0.29) \quad \boxed{11.1\%} \\
 & = 0.11136
 \end{aligned}$$

Example 2: Combining Percents

The number of students at a school is currently 1200. Predictions are that the population will increase 9% next year but then decrease by 12% the following year. What will be the population of the school in two years.

$ \begin{aligned} & \uparrow 9\% \text{ of } 1200 \\ & 0.09(1200) \\ & + 108 \\ & 1200 + 108 \\ & 1308 \text{ students} \\ & \downarrow 12\% \text{ of } 1308 \\ & 0.12(1308) \\ & - 157 \text{ students} \\ & 1308 - 157 \\ & \boxed{1151 \text{ students}} \end{aligned} $	$ \begin{aligned} & 109\% \text{ of } 1200 \\ & 1.09(1200) \leftarrow \\ & 1308 \\ & 100\% - 12\% \\ & 88\% \text{ of } 1308 \\ & 0.88(1308) \leftarrow \\ & \boxed{1151 \text{ students}} \end{aligned} $	$ \begin{aligned} & 88\% \text{ of } 109\% \text{ of } 1200 \\ & 0.88(1.09)(1200) \\ & \boxed{1151 \text{ students}} \end{aligned} $
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