

Quiz 1. *True/False:* The product $189.75(1.08)$ can be interpreted as representing finding either 8% of 189.75 or increasing 189.75 by 8%.

Solution. The statement is false. To compute a % of some number N , we need only compute $N \cdot \%_d$ and if we want to compute N increased or decreased by a %, we compute $N \cdot (1 \pm \%_d)$, where $\%_d$ is the percentage written as a decimal and we choose ‘+’ if it is an increase and choose ‘−’ if it is a decrease. So thinking of the product $189.75(1.08)$ as finding a percent of a number, we must have $\# = 189.75$ and $\%_d = 1.08$, i.e. $\% = 108\%$. Then one way of interpreting this is finding 108% of 189.75—not the 8% claimed in the quiz statement. Interpreting the product $189.75(1.08)$ as finding a percentage increase/decrease, it must be a percentage increase because $1.08 > 1$. Writing $1.08 = 1 + 0.08$, we can see that $\%_d = 0.08$. Therefore, $189.75(1.08)$ can represent finding 189.75 increased by 8%—which is what is claimed in the quiz statement.