

Part I: Rico and Stassi

Rico and Stassi are comparing the functions that tell them their scores on their favorite online game. Rico's score, after playing for t days is determined to be $R(t) = 32t$, while Stassi's score after t days is determined to be $S(t) = 76 + 20t$.

1. Rico says his score after 3 days plus his score after 7 days, $R(3) + R(7)$, is the same as his score after 10 days. Is this true?
2. Is the same thing true for Stassi? That is, is $S(3) + S(7) = S(10)$?
3. Is it always true that $F(3) + F(7) = F(3+7)$ for each function F ?
4. Rico also says that if you double his score after 4 days, $2 \cdot R(4)$, that is the same as his score after 8 days, $R(8)$. Is this true?
5. Is the same thing true for Stassi? Check, is $2 \cdot S(4) = S(8)$?
6. Is it always true that $2 \cdot F(4) = F(2 \cdot 4)$ for each function F ?