

Compare at the Same Input

Compare both models at one common input

For 0 to 6 minutes, $A = 4t + 1$ and $B = 2t + 7$ give total liters. A has the greater change rate. At one minute, A has 5 liters while B has 9 liters; the greater rate does not make A greater at every time. Equality is $4t + 1 = 2t + 7$, so $2t = 6$ and $t = 3$ minutes. Each then has 13 liters.

Your new practice

For 0 to 6 minutes, supplied models $C = t + 12$ and $D = 3t + 2$ give total liters. A fictional learner says: "C starts higher, so C always has more." Compare rates, amounts at minutes 1 and 6, and the equality time. Explain when the learner's claim fails within the stated domain.

Your comparisons, equality and qualified conclusion
