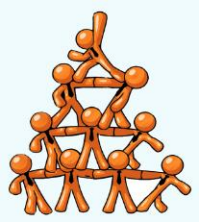
4-16: Learning Goals

- Let's solve some gnarly problems.

4-16-1: Are We There Yet?

A car is driving towards home at 0.5 miles per minute. If the car is 4 miles from home at $t = 0$, which of the following can represent the distance that the car has left to drive?

- $0.5t$
- $4 + 0.5t$
- $4 - 0.5t$
- $4 \cdot (0.5t)$



4-16-2: Cycling, Fundraising, Working, and __?

Solve each problem. Explain or show your reasoning.

1. Two friends live 7 miles apart. One Saturday, the two friends set out on their bikes at 8 am and started riding towards each other. One rides at 0.2 miles per minute, and the other rides at 0.15 miles per minute. At what time will the two friends meet?
2. Students are selling grapefruits and nuts for a fundraiser. The grapefruits cost $1 each and a bag of nuts cost $10 each. They sold 100 items and made $307. How many grapefruits did they sell?
3. Jada earns $7 per hour mowing her neighbors' lawns. Andre gets paid $5 per hour for the first hour of babysitting and $8 per hour for any additional hours he babysits. What is the number of hours they both can work so that they get paid the same amount?
4. Pause here so your teacher can review your work. Then, invent another problem that is like one of these, but with different numbers. Solve your problem.
5. Create a visual display that includes:
    - The new problem you wrote, without the solution.
    - Enough work space for someone to show a solution.
6. Trade your display with another group, and solve each other's new problem. Make sure that you explain your solution carefully. Be prepared to share this solution with the class.
7. When the group that got the problem you invented shares their solution, check that their answer is correct.

4-16: Learning Targets

- I can use a system of equations to represent a real-world situation and answer questions about the situation.