Applications

- Word Problems

    1. Define your variables

    2. Set up the equations

    3. Solve the equations

    4. Check your solutions

    5. Answer what is asked

1. *Air travel*. A turbo-jet flies 50 mph faster than a super-prop plane. If a turbo-jet goes 2000 mi in 3 hr less time than it takes the super-prop to go 2800 mi, find the speed of each plane.

Rate	x Time	= Distance

2. *Navigation*. The Hudson River flows at a rate of 3 mph. A patrol boat travels 60 mi upriver and returns in a total time of 9 hr. What is the speed of the boat in still water?

Rate	x Time	= Distance

3. *Canoeing*. During the first part of a canoe trip, Tim covered 60 km at a certain speed. He then traveled 24 km at a speed that was 4 km/h slower. If the total time for the trip was 8 hr, what was the speed on each part of the trip?

Rate	x Time	= Distance

4. *Filling a tank*. Two pipes are connected to the same tank. Working together, they can fill the tank in 2 hr. The larger pipe, working alone, can fill the tank in 3 hr less time than the smaller one. How long would the smaller one take, working alone, to fill the tank?

5. A baseball is hit so that the its height in feet after t seconds is $h(t) = -16t^2 + 44t + 4$ How far is the baseball from the the location where it was hit when the height is 15 feet?