



Using Systems of Equations to Solve a Word Problem #2

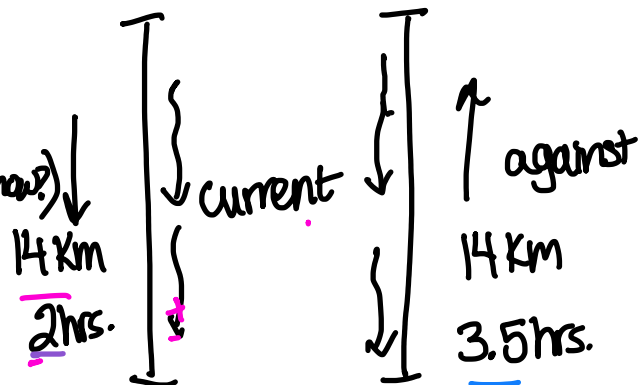
Video Notes

[Video Link](#)

Using Systems of Equations to Solve a Word Problem #2

A kayaker traveled 14 km down a river in 2 hours. On the way back, the kayaker, traveling against the current, took 3 ½ hours. What was the average rate of the kayaker and what was the rate of the current?

1. Identify what you know.
2. Identify what you WANT to know.
3. Draw a picture or diagram (if you need to).
4. Write specific let statements. (what do I not know?)
5. Write your equations.
6. Solve!
7. Ask yourself if your answer makes sense.



Let the rate of the kayaker = $x = 5.5$ km/h
 Let the rate of the current = $y = 1.5$ km/h

$$\underline{d = rt}$$

down

$$\frac{14}{2} = \frac{(x+y)2}{2}$$

back

$$\frac{14}{3.5} = \frac{(x-y)3.5}{3.5}$$

$$7 = x + y$$

$$+ 4 = x - y$$

$$11 = 2x$$

$$5.5 = x$$

$$4 = x - y$$

$$7 = x + y$$

$$\begin{array}{r} 7 = 5.5 + y \\ -5.5 - 5.5 \\ \hline 1.5 = y \end{array}$$

$$1.5 = y$$

∴ The Kayaker is traveling at a rate of 5.5 km/h
and the current is going at a rate of 1.5 km/h.