

Uniform Motion Problems

1. Assign a variable to represent the unknown, as always! The unknown quantity will be either a distance, a rate, or a time. If there are two unknowns of the same type, also describe the other in terms of the first. (It's a rare occasion to assign the variable to represent something not asked for, so we won't cover that here.)

2. Create a chart.

	d	=	r	×	t
"Vehicle 1"					
"Vehicle 2"					

3. Fill in the column of your variable. If you haven't already, you will have to write that same physical quantity for the other "Vehicle" in terms of the first, using information from the problem statement that tells you how they are related.
4. Fill in a second column with constants that will be given in the problem statement.
5. Construct the 3rd column using only the data in the chart thus far. For example, if the 3rd column is distance, fill in that column with the product of rate and time. If the 3rd column is rate, fill that in with the quotient of distance and time.
6. Build your equation using the expressions from the 3rd column together with information from the problem statement that tells you how those quantities are related.
7. Solve the equation.
8. Answer the question.
9. Check to see if your answer satisfies the conditions of the problem.

Liquid Mixture Problems

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| | (The Short Version) | Strength × Volume = Pure
(the percent) Substance |
| 1. | The "Let" statement. | |
| 2. | Build a chart and fill the first 2 columns. | Solution 1 |
| 3. | Construct the last column by multiplying. | Solution 2 |
| 4. | Build your equation by adding first 2 entries in the rightmost column to get the final entry in that rightmost column. $ab + cd = ef$ | Mixture |

a	b	ab
c	d	cd
e	f	ef