Homework: Rational Equation Word Problems

- 1. After a heavy snowfall, Brian can shovel the driveway in 30 minutes. If his younger brother Allen helps, the job only takes 20 minutes. How long would it take Allen to do the job by himself?
- 2. Joel can paint a certain fence in 3 hours by himself. Danielle can paint the same fence in 4 hours by herself. How long would it take if the two work together to paint the fence? (*Round to 2 decimal places if necessary.*)
- 3. With only the small valve open, all of the liquid can be drained from a large vat in 4 hours. With only the large valve open, all of the liquid can be drained from the same vat in 2 hours. How long would it take to drain the vat with both valves open? (Round to 2 decimal places if necessary.)



Use the following problem for #4 - 5.

Jane drove 1500 miles to St. Cloud, Minnesota to visit her aunt. On the way back, she averaged 10 miles per hour less, and the drive back took her 5 hours longer. Find Jane's average speed on her way to Minnesota.

4. Fill in the table.

	Distance	Rate	Time
Going			
Coming back			

5. Use your table in #4 to set up the rational equation. You do not have to solve it.

Use the following problem for #6 - 7.

Marcie can walk 8 miles in the same time as Felicia walks 6 miles. Marcie walks 1 mile per hour faster than Felicia. How fast are Marcie and Felicia walking?

6. Make a table.

7. Use the table in #6 to set up & solve a rational equation.

8. Jim travels 30 miles on his commute to work, and Joanne travels 40 miles on her commute. Jim travels 5 miles per hour slower than Joanne, and it takes them the same amount of time to get to work. How fast are Jim and Joanne driving?