Rational Equations Applications

1.   The sum of a number and 21 times its reciprocal is –10. Find the number.

2.   *Mail order*. Zoe, an experienced shipping clerk, can fill a certain order in 5 hr. Willy, a new clerk, needs 9 hr to complete the same job. Working together, how long will it take them to fill the order?

3.   *Cutting firewood*. Jake can cut and split a cord of firewood in 6 fewer hr than Skyler can. When they work together, it takes them 4 hr. How long would it take each of them to do the job alone?

4. *Boating.* A paddleboat travels 2 km/h in still water. The boat is paddled 4 km downstream in the same time it takes to go 1 km upstream. What is the speed of the river?

Distance =	Rate x	Time

5. *Boating.* Julia's Boston Whaler cruised 45 miles upstream and 45 miles back in a total of 8 hours. The speed for the river is 3 mph. Find the speed of the boat in still water.

Distance =	Rate x	Time