

## Using Rational Equations to Solve Context Problems WS#1

- 1)** Nyesha owns a lawn service company. Currently it takes her 50 hours a week to service all of her customers. To reduce the number of hours a week she needs to work, Nyesha hires Madelaine to help her. While Nyesha was on vacation, Madelaine was able to complete all of the work in 60 hours. If Nyesha and Madelaine work together after Nyesha returns from vacation, how long will it take them to service all of their customers?
- 2)** Using a forklift, Rico can unload a box car in 90 minutes, while Ashki takes twice as long to complete the same task. If Rico and Ashki work together, how long will it take them to unload a box car?
- 3)** Yu Jie can complete a quilt in 16 days, while Maile can complete the same task in 12 days. Maya can complete the task in 14 days. How long will it take the three of them working together to complete a quilt?
- 4)** Kendall can wash 24 golf carts in a 4-hour shift. If Benny helps him, they can get the job done in 2 hours. How long will it take Benny to do the job by himself?
- 5)** Felix and Oscar own a pastry shop. Working alone, Felix can decorate 8 dozen cookies in 90 minutes. Oscar, on the other hand, needs 120 minutes to decorate 8 dozen cookies. If they work together, how long does it take them to decorate 16 dozen cookies?
- 6)** Suppose flying in calm air a robin can reach a speed of 25 km per hour. Each day, this robin flies from its nest to the nearest body of water, 1 km away. On one particular day, it flew into a headwind and on its return trip the wind was at its back. If the total trip took  $\frac{1}{10}$  of an hour, what was the speed of the wind?
- 7)** Oni walked a half mile to her sister's house to pick up her little brother, and then walked back. The round trip took 60 minutes. If the rate at which she walked to her sister's house was 25% faster than the rate she walked while returning home, how fast did she walk on the way home?
- 8)** An 8-man rowing crew rows at a speed of 10 mph in still water. Every morning, they practice by rowing 4 miles upstream and then 4 miles downstream. If it takes them  $\frac{5}{6}$  of an hour to complete the trip, what is the speed of the current?