Algebra II/Trig Name _____

Applications with Rational Equations
Homework #17

1. Myra takes 2 hours to plant 500 flower bulbs. Francis takes 3 hours to plant 450 flower bulbs. Working together, how long should it take them to plant 1500 bulbs?

2. One pipe can fill a pool 1.5 times faster than a second pipe. If both pipes are open, the pool can be filled in 6 hours. If only the slower pipe is open, how long would it take to fill the pool?

3. Jamie, Pria and Paul can paint a room together in 2 hours. If Pria does the job alone she can paint the room in 5 hours. If Paul works alone, he can paint the room in 6 hours. If Jamie works alone, how long would it take her to paint the room?

4. Mary spent the first 120 miles of her road trip in traffic. When the traffic cleared, she was able to drive twice as fast for the remaining 300 miles. If the total trip took 9 hours, then how fast was she moving in traffic?

5. Brett lives on the river 8 miles upstream from town. When the current is 2 miles per hour, he can row his boat downstream to town for supplies and back in 3 hours. What is his average rowing speed in still water?

6. Dwayne drove 18 miles to the airport to pick up his father and then returned home. On the return trip he was able to drive an average of 15 miles per hour faster than he did on the trip there. If the total driving time was 1 hour, then what was his average speed driving to the airport?

7. Working together, two construction crews can build a shed in 5 days. Working separately, the less experienced crew takes twice as long to build a shed than the more experienced crew. Working separately, how long does it take each crew to build a shed?

8. A passenger train can travel, on average, 20 miles per hour faster than a freight train. If the passenger train covers 390 miles in the same time it takes the freight train to cover 270 miles, then how fast is each train?

Answers

1. It takes 3 hours 45 minutes for Myra and Francis to plant 1500 bulbs together.
2. The slower pipe will take 15 hours to fill the pool alone.
3. It would take Jamie 7.5 hours to paint the room by herself.
4. Mary averaged 30 miles per hour in traffic.
5. His rowing speed is 6 miles per hour.
6. His average speed driving to the airport was 30 miles per hour.
7. Working separately, the experienced crew takes 7½ days to build a shed, and the less experienced crew takes 15 days to build a shed.
8. The speed of the passenger train is 65 miles per hour and the speed of the freight train is 45 miles per hour.