H Math 3- Applications of Rational Equations Practice

1. Jovan can walk 8 miles in the same time as Dillon walks 6 miles. If Jovan walks 1 mile per hour faster than Dillon, then how fast does each person walk?
   Jovan: 3mph; Dillon: 3mph

2. Diego's boat will go 15 miles per hour in still water. If he can go 12 miles downstream in the same amount of time as it takes to go 9 miles upstream, then what is the speed of the current?
   2.14 mph

3. Joanna travels 70 miles on her milk route, and Autumn travels 75 miles on her route. Joanna travels 5 miles per hour slower than Autumn, and her route takes her one-half hour longer than Autumn's. How fast is each one traveling?
   Joanna: 20mph, Autumn: 25mph

4. Noah bicycled 45 miles going east from Rolesville, and Mariela bicycles 70 miles. Mariela averaged 5 miles per hour more than Noah, and her trip took one-half hour longer than Noah's. How fast was each one traveling?
   Noah: 15 mph and Mariela: 20 mph OR Noah: 30 mph and Mariela: 35mph

5. Connor ran 8 miles and then walked 6 miles. If he ran 5 miles per hour faster than he walked and the total time was 2 hours, then how fast did he walk?
   5 mph

6. Savana participated in a triathlon in which she swam 3 miles, ran 5 miles, and then bicycles 10 miles. Savana ran twice as fast as she swam, and she cycled three times as fast as she swam. If her total time for the triathlon was 1 hour and 46 minutes, then how fast did she swim?
   5 mph

7. Sabria can paint a certain fence in 3 hours by herself. If Zech helps, the job takes only 2 hours. How long would it take Zech to paint the fence by himself?
   6 hours

8. Tahir has discovered that a large dog can destroy his entire garden in 2 hours and that a small boy can do the same job in 1 hour. How long would it take the large dog and the small boy working together to destroy Tahir's garden?
   2/3 hour = 40 min

9. Vlad bought 18 pounds of fruit consisting of apples and bananas. He paid $9 for the apples and $2.40 for the bananas. If the price per pound of the apples was 3 times that of the bananas, then how many pounds of each type of fruit did she buy?
   10 lbs apples, 8 lbs bananas

10. Macey received a bill for a total of 8 hours labor on the repair of her water heater. She paid $50 to the master mechanic and $90 to his apprentice. If the master apprentice gets $10 more per hour than his apprentice, then how many hours did each work on the water heater?

    Master: 2hr, Apprentice: 6hr

11. Jake can blow the leaves off the sidewalks around the capitol building in 2 hours using a gasoline-powered blower. Desirae can do the same job in 8 hours using a broom. How long would it take them working together?

    1.6hr = 96min

12. It takes a computer 8 days to print all of the personalized letters for a national sweepstakes. A new computer is purchased that can do the same job in 5 days. How long would it take to do the job with both computers working on it?

    3.077 days