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ALGEBRA II WORKSHEET: APPLICATIONS OF RATIONAL EQUATIONS

Solve each example of a separate sheet of paper. Write answers in complete sentences using the correct units of measure.

1. Working alone, Cebastian could clean my whiteboards in 20 minutes and Ashley could clean them in 24 minutes. How long would it take the two of them working together to clean my whiteboards?

2. Refer to the information in Question #1. If Cebastian starts cleaning the whiteboards three minutes after Ashley begins, how long will Ashley have to work until all of the whiteboards are clean?

3. In electrical circuits, if two resistors are connected in parallel (see diagram), their combined resistance R can be represented by the equation . Solve the equation for R.

4. Abbey is using her new driver’s license to drive to Portland, Maine for a concert, which starts in 3.5 hours and is 180 miles away. Thanks to traffic around Boston, she only travels 25 mph for the first two hours. Once traffic opens up, how fast must she drive to make it to the concert on time, or will she have to accept the fact that she will be late?

5. Mr. Densley drove 504 km in each direction on a vacation trip. The average rate going was 14 km/h faster than the rate returning. The total time for the entire trip was 21 hours. Find the average rate for each direction.