

The Weekly Rigor

No. 355

“A mathematician is a machine for turning coffee into theorems.”

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50 Word Problems Involving Rational Equations

(Part 5)

17. It takes a freight train 1 hour longer to travel 180 miles than it takes an express train to travel 195 miles. The rate of the express train is 20 miles per hour greater than the rate of the freight train. Find the times and rates of both trains.

18. To travel 60 miles, it takes Sue, riding a moped, 2 hours less time than it takes Doreen to travel 50 miles riding a bicycle. Sue travels 10 miles per hour faster than Doreen. Find the times and rates of both girls.

19. Sam likes to travel to the next town to see the state fair. When he leaves his house, he can take one of two routes, the highway or the interstate. He averages 30 miles per hour when he drives on the highway to get to the state fair. He averages 50 miles per hour when he takes the interstate. If both routes are exactly the same length, and he saves two hours by driving on the interstate, how far away is the state fair?

20. John makes a journey of 430 kilometers. He goes 160 km by bus and 270 km by car, which averages 10 km/h faster than the bus. The whole journey takes 5 hours. What is the rate of speed of the bus and of the car?

“Only he who never plays, never loses.”

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