

Problem of the Week

Grade 7 and 8

Pushy Pushy Solution

Problem

Manny Kerr runs a company that specializes in grooming and caring for lawns. Manny has a push mower and powerful riding mower. At one location it takes him five hours to cut the entire lawn with the push mower but only 70 minutes with the powerful riding mower. After 90% of the lawn was cut using the powerful riding mower, the remainder was cut using the push mower. How many minutes did it take Manny to cut the entire lawn.

Solution

It takes Manny 70 minutes to cut 100% of the lawn with the powerful riding mower. It would take him 90% of 70 minutes or $0.90 \times 70 = 63$ minutes to cut 90% of the lawn with the powerful riding mower.

Since he cuts 90% with the powerful riding mower, he cuts $100\% - 90\% = 10\%$ using the push mower. It takes him 5 hours or $5 \times 60 = 300$ minutes to cut 100% of the lawn with the push mower. It would then take him $0.10 \times 300 = 30$ minutes to cut 10% of the lawn with the push mower.

It would then take him a total of $63 + 30 = 93$ minutes to cut the entire lawn using the powerful riding mower for 90% of the job and the push mower for 10% of the job.

