

The Weekly Rigor

No. 360

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

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50 Word Problems Involving Rational Equations

(Part 10)

37. A local brewery has a vat that can be completely filled with beer from the inlet pipe in 60 minutes. The outlet pipe can completely drain a full vat in 80 minutes. If for some reason, both pipes are left open, how long would it take to completely fill an empty vat?

38. When the tub faucet is on full, it can fill the tub to overflowing in 20 minutes (the overflow drain is plugged up). The drain can empty the tub in 15 minutes. Your four-year-old has managed to turn the faucet on full, and the drain was closed. Just as the tub starts to overflow, you run in and discover the mess. You grab the faucet handle, and it comes off in your hand, leaving the water running at full power. You yank the drain open, and run for towels to clean up the overflow. How long will it take for the tub to empty, with the faucet still on but the drain now open?

39. Courtney's empty swimming pool can be completely filled from a garden hose in 30 hours. Her outlet pipe can completely drain the full pool in 120 hours. If both the garden hose and the outlet pipe are turned on at the same time, how long would it take to completely fill Courtney's empty pool?

40. It takes 15 minutes for 4 identical software programs to render 2 widgets. How many minutes would it take for 6 identical software programs to render 5 widgets?

"Only he who never plays, never loses."

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