

**Problem.** 4 kitchen assistants can prepare 10 kg of vegetables in 30 minutes. How long would it take 20 assistants? Please show your work.

**Solution.** By  $x$  denote mass of vegetables that 1 kitchen assistant can prepare in 1 hour. Hence, 4 assistants can prepare  $4x$  kg per hour, or  $2x$  in half an hour (30 minutes). So,  $2x = 10$ , which gives us  $x = 5$  kg of vegetables per hour by 1 assistant. That's why 20 assistants can prepare  $20 \cdot x = 100$  kg of vegetables per hour. By  $t$  denote the time, which takes 20 assistants to prepare 10 kg of vegetables. One can get the equation  $10 = 100 \cdot t$ , hence  $t = 1/10$  of hour, that is 6 minutes.

**Answer.** 6 minutes.