

Answer on Question #36438 – Math – Algebra

Question

Jason is considering purchasing a new machine to make plastic silverware. The machine produces 1,000 pieces of silverware in two hours. One box contains 50 pieces of silverware and sells for \$3.00. If the machine costs \$9,000 and runs for 24 hours a day, how many days will it take to make enough silverware to pay for itself?

Solution

The machine produces $1000/2=500$ pieces of silverware per hour, which form $500/50=10$ boxes per hour and sells for $10 \times \$3.00=\30.00 per hour.

If the machine runs for 24 hours a day and costs \$9,000, then it will take $9000/30=300$ hours, which is equal to 12 days 12 hours because $300=24 \times 12 + 12$.

Answer: 12 days 12 hours.