

ason 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 \$9000, and runs for 24 hours a day, how many days will it take the machine to take enough silverware to pay for itself?

Solution:

We form a proportion. Three dollars worth 50 parts, then \$ 9,000 - x-parts
50 pieces of silverware sells for \$3.00.

X pieces of silverware sells for \$9000 $\rightarrow x = 50 \cdot 9000 / 30 = 150000$
So 150000 pieces of silverware sells for \$9000

The machine produces 1,000 pieces of silverware in two hours
Then 150000 pieces of silverware in Y hours $\rightarrow Y = 150000 \cdot 2 / 1000 = 300$ hours = 12.5 days

Answer: 12.5 days will it take the machine to take enough silverware to pay for itself