



Problem of the Week

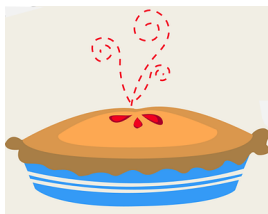
Problem B and Solution

How Do You Like Them Apples?

Problem

The Big Apple is a tourist attraction and bakery located near Colborne, Ontario. Here are some fun facts about their apple pies:

- Two thousand pies (on average) are sold each week.
 - Each pie uses seven apples on average, weighing about 1 kg in total.
 - Pie costs vary, but assume they always cost \$20 each.
- (a) How many apples (on average) are used each week to make pies? How many apples are used each year? Assume there are 52 weeks per year.
- (b) How many pies are made in one year at the Big Apple, assuming they are open every day of the year?
- (c) The Big Apple opened in 1987. What will be the value of the pies sold between June 1, 1987 and May 31, 2027? Did you have to make any assumptions?



Solution

- (a) Each pie requires seven apples, so 2000 pies require $7 \times 2000 = 14\,000$ apples. Therefore, 14 000 apples are used each week to make pies. In one year (52 weeks), $52 \times 14\,000 = 728\,000$ apples are used.
- (b) Since 2000 pies are made per week, $52 \times 2000 = 104\,000$ pies are made in one year.
- (c) Between June 1, 1987 and May 31, 2027 there are $2027 - 1987 = 40$ years. Thus $40 \times 104\,000 = 4\,160\,000$ pies will be sold during that period. At \$20 per pie, the total value of the pies sold is $\$20 \times 4\,160\,000 = \$83\,200\,000$. We assumed the price of the pies didn't change during these 40 years.