Problem of the Week
Problem B and Solution
Skyline Numbers

Problem

On June 3, 1989 the SkyDome (now known as the Rogers Centre) opened its doors to the public.

a) The Toronto Blue Jays played their first World Series game at the SkyDome on October 20, 1992. How many days was this after the opening of the SkyDome? Don't forget that 1992 was a leap year.

b) The overall cost of the SkyDome was $570 million. If construction officially began on October 3, 1986, how much money was spent on average each month from the date construction began until its opening?

c) If the original builders were expecting the total cost of $570 million to average to a cost of $15 million per year over the lifetime of the SkyDome, for how many years did the original builders expect the SkyDome to last?

Solution

a) The number of days after June 3, 1989 until October 20, 1992 can be calculated in this way:

Time	Number of days
June 4, 1989 - June 3, 1991	$365 \times 2 = 730$
June 4, 1991 - June 3, 1992*	366
June 4, 1992 - June 30, 1992	27
July 1992	31
August 1992	31
September 1992	30
October 1, 1992 - October 20, 1992	20
Total	1235

*1992 was a leap year.

b) The period from October 3, 1986 to June 3, 1989 is equal to 2 years and 8 months. This is equivalent to $2 \times 12 + 8 = 32$ months.
Thus, the average cost per month is $570\,000\,000 \div 32 = \$17\,812\,500$ per month.

c) The number of years they were expecting the SkyDome to last is
$570\,000\,000 \div 15\,000\,000 = 38$ years.