

# Activity 11 Assessment

## Solving Percent Problems

### Solving Percent Problems

Calculates a percent increase

In 2020, the price of a block of butter was \$5.20.  
In 2 years, the price rose by about 11%.  
What was the price of butter in 2022?

The price of butter in 2022 is  $(100\% + 11\%) = 111\%$  of its price in 2020.

$$\begin{aligned} \text{So, the price of butter in 2022 is:} \\ 111\% \text{ of } \$5.20 \\ = 1.11 \times \$5.20 \\ \approx \$5.77 \end{aligned}$$

Calculates a percent decrease

In 2001, the population of polar bears was about 1500.  
By 2010, the population had decreased by 40%.  
What was the population of polar bears in 2010?

The population in 2010 was  $(100\% - 40\%) = 60\%$  of its population in 2001.

$$\begin{aligned} \text{So, the population of polar bears in 2010 was:} \\ 60\% \text{ of } 1500 \\ = 0.60 \times 1500 \\ = 900 \end{aligned}$$

Solves a problem involving combined percents

A person buys a Canadian flag for \$15.99.  
How much would it cost in your province?

For example, in SK:  
6% PST and 5% GST = 11% tax

$$\begin{aligned} \text{Total cost of the flag:} \\ 111\% \text{ of } \$15.99 \\ = 1.11 \times \$15.99 \\ \approx \$17.75 \end{aligned}$$

Solves a problem involving consecutive percents

In 2015, the average price of a house in Canada was \$413 000.  
By 2020, this price had increased by about 28%.  
By the middle of 2022, the average price in 2020 had increased by a further 26%.

What was the average price of a house in June 2022?

$$\begin{aligned} \text{In 2020, the price was:} \\ 128\% \text{ of } \$413\,000 \\ = 1.28 \times \$413\,000 \\ = \$528\,640 \end{aligned}$$

$$\begin{aligned} \text{In 2022, the price was:} \\ 126\% \text{ of } \$528\,640 \\ = 1.26 \times \$528\,640 \\ = \$666\,086.40 \end{aligned}$$

The average price of a house in 2022 was about \$666 000.

### Observations/Documentation