

Calculating Percent Increase

The Consumer Price Index (CPI) measures changes in prices by comparing, through time, the cost of a fixed basket of goods and services.

Some of the goods and services in the CPI basket include Food, Transportation, Shelter, Clothing, Transportation and Education.



In 2022, the average yearly cost spent on food for a family of four was \$15 223.

By 2023, the average yearly cost spent on food for a family of four had increased to \$16 288.



I'll explore solutions for calculating the increase in the cost of food as a percent value.

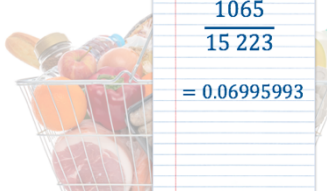
My first solution step involves performing this calculation.

- How would I explain the values in this calculation?



My second solution step involves writing a fraction and performing a division calculation.

- How would I explain and demonstrate performing this solution step?

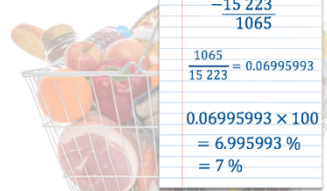

$$\frac{1065}{15\,223} = 0.06995993$$

My final solution step involves multiplying by 100.

- Why am I multiplying by 100?


$$\begin{aligned} 0.06995993 \times 100 \\ = 6.995993\% \\ = 7\% \end{aligned}$$

- How would I summarize my solution path for calculating the percent increase?
- How could I check that my percent increase is correct?


$$\begin{array}{r} 16\,288 \\ -15\,223 \\ \hline 1065 \end{array}$$
$$\frac{1065}{15\,223} = 0.06995993$$
$$\begin{aligned} 0.06995993 \times 100 \\ = 6.995993\% \\ = 7\% \end{aligned}$$

I'll review the previous solution approach using a new problem.

The price of a house increased from \$475 000 to \$532 000.

I'll calculate the increase as a percent value.

- How will I determine the amount that I want to write as a percent value?



- How would I explain writing the price increase as a fraction of the original price?



- How would I explain and demonstrate using my fraction to calculate the percent increase?



$$\begin{array}{r} 532\,000 \\ -475\,000 \\ \hline 57\,000 \end{array}$$

$$\begin{array}{r} 57\,000 \\ \hline 475\,000 \end{array}$$

- How could I check that my solution and percent increase are correct?



$$\begin{array}{r} 532\,000 \\ -475\,000 \\ \hline 57\,000 \end{array}$$

$$\begin{array}{r} 57\,000 \\ \hline 475\,000 \end{array}$$

$$\begin{array}{l} 0.12 \times 100 \\ = 12\% \end{array}$$

Calculating Percent Increase

Which statements do I feel confident explaining and demonstrating?

Which statements do I not feel confident explaining and demonstrating?

- ✓ I can explain the meaning of percent
- ✓ I can write a percent value as the numerator of a fraction with denominator 100
- ✓ I can explain and show an increase in a value as a fraction of an original amount
- ✓ I can explain and demonstrate how I write a fraction as an equivalent decimal
- ✓ I can explain and demonstrate how I write a decimal as a percent value
- ✓ I can explain and demonstrate how I determine a percent of a number