

Percentage increase and decrease.

1. A car cost £40,000. In the first year, the value of the car depreciated by 12%. For the following four years, the value of the car depreciated by 4% per annum. What was the value of the car after five years?
2. A house cost £200,000. For four years, the house prices rose by 6% per annum. In the fifth year, the house prices dropped by 8%. What was the value of the house after 5 years?
3. An athlete trained for five hours per day. Initially, she ran the mile in 7 minutes. After training for a year, the time taken reduced by 12%. After the second year of training, the athlete reduced her time by a further 7% and then in the third year, she improved her performance by a further 6%. How fast was she able to run a mile at the end of year three?
4. The price of a loaf of bread was £1.25. In year one, the price rose by 3%. In years two and three, the price rose by 5% each year. In year four, the price of bread decreased by 8% but then it rose again by 11% in year five. How much did a loaf of bread cost after five years?
5. With the triple lock in pensions, they rise in value in one of three ways: the consumer price index in September of the previous year; average earnings or 2.5% depending on whichever is the highest. We are comparing the CPI with the 2.5% so if 2.5% is greater than the CPI, then the pension increases by 2.5%. Otherwise, it increases by the CPI percentage.

In 2015, it goes up by 2.5% because that is greater than the CPI. In 2017, it goes up by 2.8% because that is greater than the 2.5% minimum increase.

Year	Consumer Price Index	2.5%
2015	0.2%	2.5%
2016	1.3%	2.5%
2017	2.8%	2.5%
2018	2.2%	2.5%
2019	1.7%	2.5%
2020	0.7%	2.5%
2021	2.9%	2.5%
2022	8.8%	2.5%

If the pension was £8,000 per annum in May 2015, what would it be in April 2023?

Answers

- 1 £29,896.99891 → £29,897.00 to the nearest penny.
- 2 £232,295.7606 → £232,295.76 to the nearest penny.
- 3 323.10432 seconds → 5 minutes, 23.10432 seconds.
- 4 £1.449561488 → £1.45 to the nearest penny.
- 5 £10,417.09677 → £10,417.10 to the nearest penny.