

Finding the percentage increase or decrease

Starter

- (Review of last lesson)** Using a calculator:
(a) increase 839 by 4.7 % (f) decrease 194 by 13.6 %
Do not round your answers.
- (Review of last lesson)** In a long jump competition, Mary's first jump was 6.75 m. Her second jump was a decrease of 7 % on her first jump. Her third jump is an increase of 9 % on her second jump. How far was her third jump? Give your answer to 3 s.f..
- (Review of previous material)** Find the percentage change when:
(a) a price of £10 is increased to £12.
(b) a weight of 80 kg is decreased to 68 kg.
N.B. Percentage change is worked out *from the original value*.

Notes

Percentage change is worked out *from the original value*. The formula is

$$\% \text{ change} = \frac{\text{Difference}}{\text{Original}} \times 100 \% \quad \text{“D/O times 100”}$$

When talking about money:

% age increase \equiv % age profit

% age decrease \equiv % age loss

E.g. 1 A car dealer buys a car for £500, gives it a clean, and then sells it for £640. What is the percentage profit?

Working: % profit = $\frac{\text{Change}}{\text{Original}} \times 100 \% = \frac{640 - 500}{500} \times 100 \% = 28 \%$

E.g. 2 A damaged carpet which cost £180 when new is sold for £100. What is the percentage loss? Give your answer to 3 s.f..

E.g. 3 A picture has dimensions 20 cm by 10 cm. Calculate the percentage increase in the area of the picture after both length and width are increased by 20 % .

Video:

[Finding the percentage increase or decrease](#)

[Solutions to Starter and E.g.s](#)

Exercise

9-1 class textbook:	p29 M2.2 Qu 1-10
A*-G class textbook:	p27 M2.2 Qu 1-12
9-1 homework book:	p8 M2.2 Qu 1-10
A*-G homework book:	p6 M2.2 Qu 1-9

Summary

Percentage change is worked out *from the original value*.

$$\% \text{ change} = \frac{\text{Difference}}{\text{Original}} \times 100 \% \quad \text{“D/O times 100”}$$

When talking about money:

$\% \text{ age increase} \equiv \% \text{ age profit}$

$\% \text{ age decrease} \equiv \% \text{ age loss}$

