Repeated percentage increase and decrease

Maths

Mr Clasper

Repeated percentage increase and decrease

1. These calculations are incomplete. Fill in the missing information

Increase 200 by 10%, then decrease by 20%

200 × ____ × 0.8

Decrease 500 by 10%, then increase by 5%

500 × ____ × 1.05

2. A motorbike costs £7000. It decreases in value by 6% every year. How much will it be worth after 4 years?

3. House prices increase by an average of 1.8% per year. Phillip's house is currently worth £230 000. How much will Phillip's house be worth in 7 years?

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4. A horse weighs 700 kg. Its weight increases by 12%, before then losing 5%. How much does the horse now weigh?

5. Molly invested some savings in 2018. By 2019 she had made a loss of 15%. In 2020 she made a profit of 30%

What percentage has her original investment increased by?

Answers

Repeated percentage increase and decrease

1. These calculations are incomplete. Fill in the missing information

Increase 200 by 10%, then decrease by 20%

$200 \times \underline{1.1} \times 0.8$

Decrease 500 by 10%, then increase by 5%

$500 \times \underline{0.9} \times 1.05$

2. A motorbike costs £7000. It decreases in value by 6% every year. How much will it be worth after 4 years? $7\,000 \times 0.94^4 = 5\,465.24272$ £5 465

3. House prices increase by an average of 1.8% per year. Phillip's house is currently worth £230 000. How much will Phillip's house be worth in 7 years?

$230\,000 \times 1.018^7 = 260\,592.72\ldots$ £260 593

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4. A horse weighs 700 kg. Its weight increases by 12%, before then losing 5%. How much does the horse now weigh?

$700 \times 1.12 \times 0.95 = 744.8$ kg

5. Molly invested some savings in 2018. By 2019 she had made a loss of 15%. In 2020 she made a profit of 30%

What percentage has her original investment increased by?

$0.85 \times 1.3 = 1.105$

10.5%