

Learning Objective 1: Increasing or decreasing by a given percentage using a calculator

Learning Objective 2: To solve problems involve percentage increase or decreases

Part 1

What decimal would I multiply by to:

| | | |
|-----------------|-----------------|-----------------|
| Increase by 15% | Increase by 27% | Decrease by 24% |
| Increase by 5% | Decrease by 17% | Decrease by 4% |

Work out the following, writing down your calculation carefully

| | | |
|---------------------|-----------------------|---------------------|
| Increase 40 by 13% | Increase 28 by 7% | Decrease 45 by 14% |
| Increase 120 by 14% | Decrease 88 by 2% | Increase 105 by 44% |
| Decrease 4 by 1% | Decrease 15.20 by 88% | Increase 50 by 44% |

Part 2: Multiple increases and decreases: REMEMBER every separate increase or decrease needs a separate multiplier

What decimal do I multiply by to:

| | | |
|-------------------------------------|---|-------------------------|
| Increase by 37% 5 times | Increase by 22% 14 times | Decrease by 20% 4 times |
| Increase by 10% then decrease by 7% | Decrease by 10% then increase by 10% [any comment?] | Increase by 4% 5 times |

Solve the following problems

| | |
|--|---|
| Jack invests £300. It increases by 11% per year. How much does he have after 3 years? How long before his money doubles? | An antique increases by 7% for the first 5 years and then decreases by 8% for the next two years. If it originally cost £3000, is it worth more or less than this after 7 years? |
| The population of a town is 3,000,000 The population increases by 4% a year. How large is the population after 10 years? How long before the population is more than 4,000,000? | A ball is dropped from 2m high. After every bounce its height decreases by 30%. How high does it bounce after 2 bounces? How long before it only bounces by 10cm? |