# KS3 Unit 19 Percentages

| Topic/Skill | Definition/Tips | Example |
|---|---|---|
| 1. Percentage | **Number of parts per 100.** | 31% means $\frac{31}{100}$ |
| 2. Finding 10% | To find **10%**, **divide by 10** | 10% of £36 = 36÷10=£3.60 |
| 3. Finding 1% | To find **1%**, **divide by 100** | 1% of £8 = 8÷100 = £0.08 |
| 4. Percentage Change | $$\frac{Difference}{Original} \times 100\%$$ | A games console is bought for £200 and sold for £250.<br><br>% change $= \frac{50}{200} \times 100 = 25\%$ |
| 5. Increase or Decrease by a Percentage | Non-calculator: **Find the percentage** and **add** or **subtract** it from the **original** amount.<br><br>Calculator: Find the **percentage multiplier** and multiply. | <u>Increase 500 by 20% (Non Calc):</u><br>10% of 500 = 50<br>so 20% of 500 = 100<br>500 + 100 = 600<br><br><u>Decrease 800 by 17% (Calc):</u><br>100%-17%=83%<br>83% ÷ 100 = 0.83<br>0.83 x 800 = 664 |
| 6. Percentage Multiplier | The **number** you **multiply** a quantity by to **increase or decrease** it by a **percentage**. | The multiplier for increasing by 12% is 1.12<br><br>The multiplier for decreasing by 12% is 0.88<br><br>The multiplier for increasing by 100% is 2. |
| 7. Reverse Percentage | Find the **correct percentage given in the question**, then work backwards to **find 100%**<br><br>Look out for words like '**before**' or '**original**' | A jumper was priced at £48.60 after a 10% reduction. Find its original price.<br><br>100% - 10% = 90%<br><br>90% = £48.60<br>1% = £0.54<br>100% = £54 |
| 8. Simple Interest | Interest calculated as a **percentage of the original** amount. | £1000 invested for 3 years at 10% simple interest.<br><br>10% of £1000 = £100<br><br>Interest = 3 × £100 = £300 |