1. Mulipliers

We can use **multipliers** to help find a percentage of something.

Calculate 42% of 500

To find the multiplier divide by 100:

42% = 42 ÷ 100 = **0.42**

Multiply 500 by 0.42: 500 x 0.42 = **210**

Calculate 87% of 94

To find the multiplier, divide by 100:

87% = 87 ÷ 100 = **0.87**

Multiply 94 by 0.87: 94 x 0.87 = **81.78**

2. Percentage increase

A bank pays 15% interest per year.

How much will I have if I invest £200 for one year?

100% + 15% = 115%

115% is equivalent to 1.15

1.15 is the **multiplier.**

Original		New
100%	x 1.15 →	115%
£200	x 1.15 →	£230

After 1 year I will have **£230**

3. Percentage decrease

A woman goes out to buy an £18 scarf.

The shop is having a 35% off sale.

How much did the woman pay for the scarf?

100% - 35% = 65%

65% is equivalent to 0.65

0.65 is the **multiplier.**

Original		New
100%	x 0.65 →	65%
£18	x 0.65 →	£11.70

The scarf will cost **£11.70**

Maths, Y8 - Percentages (Calculator)

4. Percentage change

Billy has had a pay increase from £9.48 per hour to £9.83 per hour.

Write the increase as a percentage.

actual increase in hourly pay: £9.83 – £9.48 = **£0.35**

increase as a percentage: $\frac{0.35}{9.48} \times 100\%$

using a calculator: $\frac{0.35}{9.48} \times 100 =$ **3.7%** (1 d.p.)

The number of workers at a factory is reduced from 720 to 684.

Calculate the percentage reduction.

Original		New
100%	x 0.95 →	95%
÷ 7.2 ↑		÷ 7.2 ↑
720	x 0.95 →	684

684 is 95% of 720.

100% - 95% = **5% reduction**