Equivalent Fractions, Percentages, Decimals

Fractions	Percentages	Decimals
1	100%	1.0
$\frac{1}{2}$	50%	0.5
$\frac{1}{4}$	25%	0.25
$\frac{1}{5}$	20%	0.2
$\frac{1}{10}$	10%	0.1
$\frac{23}{100}$	23%	0.23
$\frac{7}{100}$	7%	0.07
$\frac{113}{100}$	113%	1.13
$\frac{1}{3}$	$33\frac{1}{3}\%$	$1.\dot{3}$

Finding Percentages of Quantities

Non-Calculator	Calculator
Find 20% of £84	Find 83% of £65
$10\% = £8.40$	65×0.83
$20\% = £16.80$	$= £53.95$

Find 75% of 320m

$25\% = 320 \div 4 = 80$

$75\% = 80 \times 3 = 240m$

Find 156% of £42

$42 \times 1.56 = £65.52$

Find 15% of £82

$10\% = £8.20$

$5\% = £4.10$

$15\% = £12.30$

Find $7\frac{1}{2}\%$ of 64 kg

64×0.075

4.8 kg

Increase a Quantity by a Given Percentage

Ex1   Increase £38 by 19%

Method 1   Find 19% and add it on

$£38 \times 0.19 = £7.22$

$£38 + £7.22 = £45.22$

Method 2   Add on the percentage and find it

Increase £38 by 19%

Find 119%

$£38 \times 1.19 = £45.22$

Decrease a Quantity by a Given Percentage

Ex1   Decrease 72 kg by 14%

Method 1   Find 14% and subtract from original

$$72 \times 0.14 = 10.08 \text{ kg}$$

$$72 \text{ kg} - 10.08 \text{ kg} = 61.92 \text{ kg}$$

Method   Calculate remaining percentage and find it

Decrease 72 Kg by 14%

86% remains

$$72 \times 0.86 = 61.92 \text{ kg}$$

Expressing One Quantity as a Percentage of Another

Example   Express 24 as a percentage of 60

$$\frac{24}{60} \times 100 \%$$

$$= 40\%$$

Ex 2   156 students out of 228 pass an exam
Find the percentage pass rate

$$\frac{156}{228} \times 100 \% = 68.4\%$$