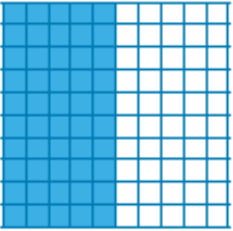
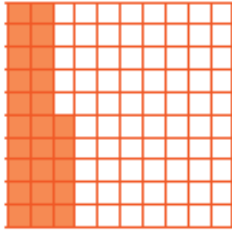
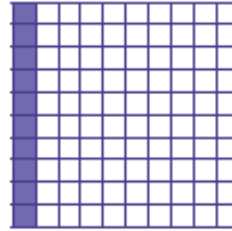
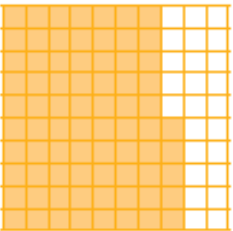
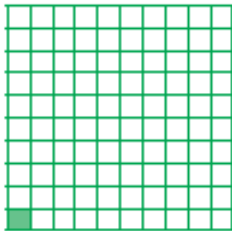
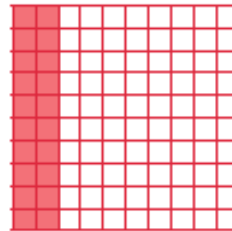


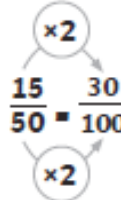


Key Vocabulary
per cent (100) out of 100 (or per every 100). A good way to remember this is the % sign is made up of a 1 and two 0s
percentage
discount
equivalent fraction
equivalent decimal
convert
compare
order
the whole

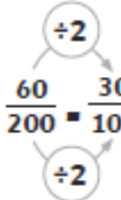
### Equivalent Fractions, Decimals and Percentages

 $\frac{50}{100} = \frac{1}{2} = 0.5 = 50\%$	 $\frac{25}{100} = \frac{1}{4} = 0.25 = 25\%$	 $\frac{10}{100} = \frac{1}{10} = 0.1 = 10\%$
 $\frac{75}{100} = \frac{3}{4} = 0.75 = 75\%$	 $\frac{1}{100} = 0.01 = 1\%$	 $\frac{20}{100} = \frac{2}{10} = 0.2 = 20\%$

### Fractions to Percentages

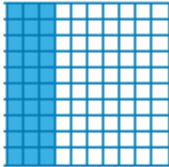
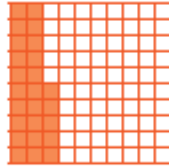
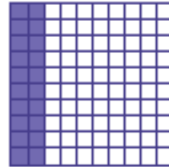
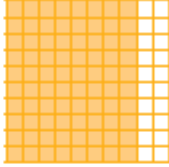




$$\frac{15}{50} \xrightarrow{\times 2} \frac{30}{100} = 0.3 = 30\%$$



$$\frac{60}{200} \xrightarrow{\div 2} \frac{30}{100} = 0.3 = 30\%$$

### Order Fractions, Decimals and Percentages

$\frac{3}{10}$	$>$	$25\%$	$>$	$0.2$
				
$\frac{30}{100} = 30\%$		$\frac{25}{100} = 25\%$		$\frac{20}{100} = 20\%$
$80\%$	$=$	$0.8$	$=$	$\frac{4}{5}$
				
$\frac{80}{100} = 80\%$		$\frac{80}{100} = 80\%$		$\frac{80}{100} = 80\%$



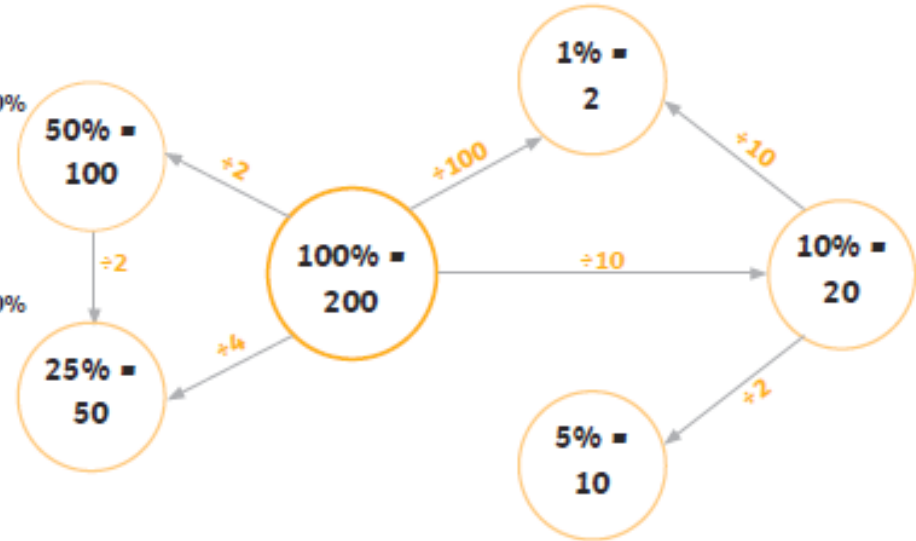
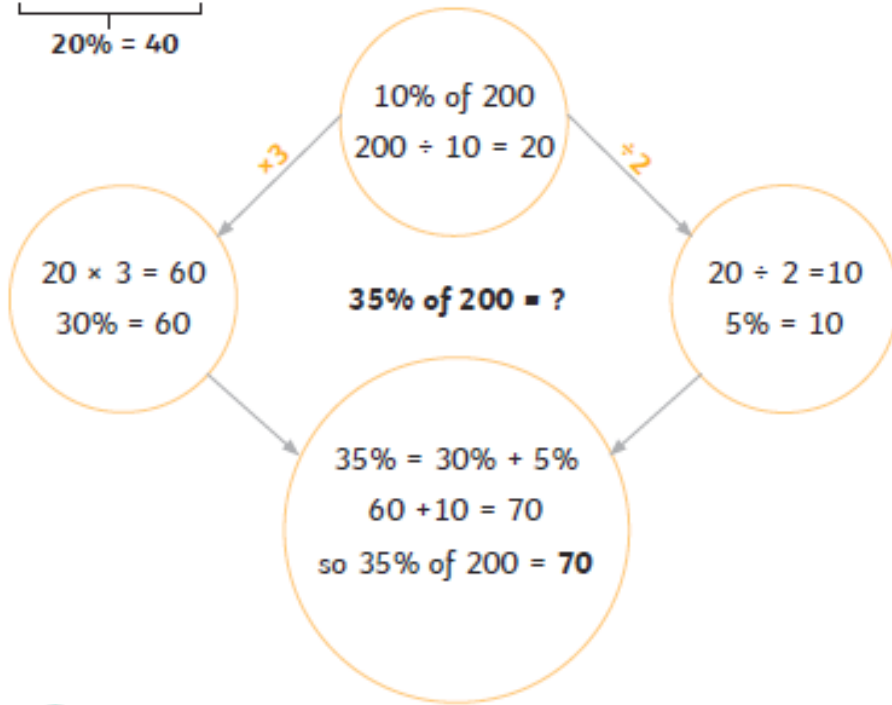
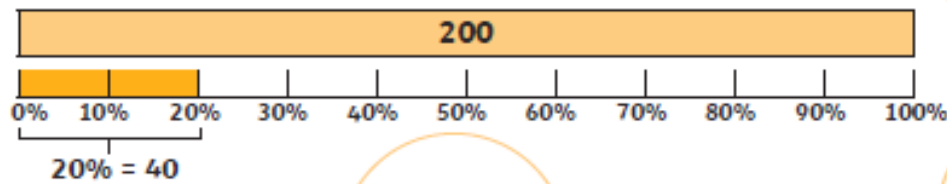
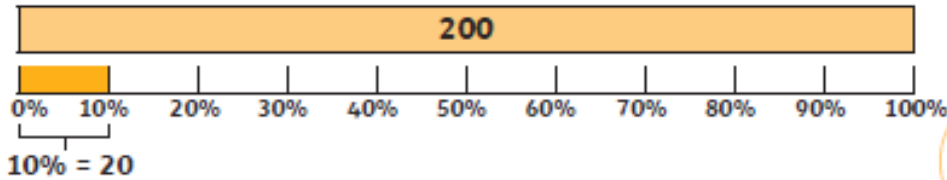
### Finding a Percentage of an Amount

$50\% = \frac{1}{2}$  so we can divide by 2

$10\% = \frac{1}{10}$  so we can divide by 10

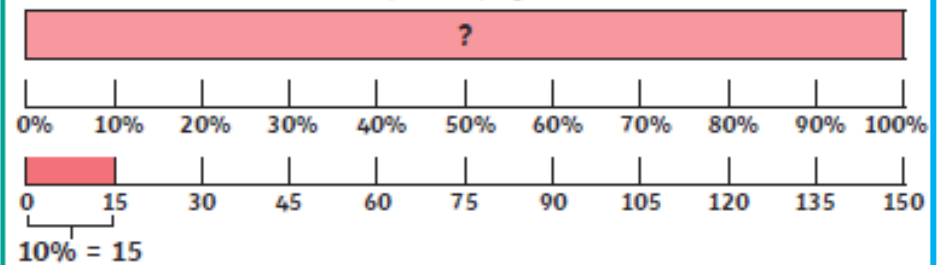
$25\% = \frac{1}{4}$  so we can divide by 4

$1\% = \frac{1}{100}$  so we can divide by 100



### Percentages - Missing Values

Whole value (100%) of bar model = ?



We know 10% = 15       $10\% \times 10 = 100\%$  (the whole)      so  $15 \times 10 = 150$

What is an efficient way to calculate 90% of a number?  
Order these from smallest to largest: 25%, 0.6, 1/2