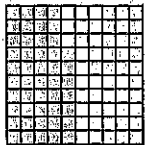
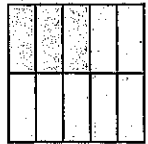
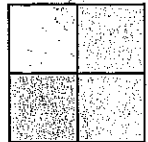


TARGET To recall and use equivalences between fractions, decimals and percentages.

Per cent means out of 100.
 Percentages are fractions with a denominator of 100.
 The symbol for per cent is %.

Example
 $\frac{47}{100} = 47\% = 0.47$

To express fractions as percentages, change them to equivalent fractions with denominators of 100.

Examples
 $\frac{3}{10} = \frac{30}{100} = 30\%$
 $\frac{3}{4} = \frac{75}{100} = 75\%$

To express decimals as percentages, multiply by 100.

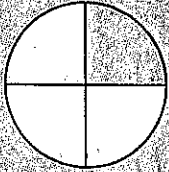
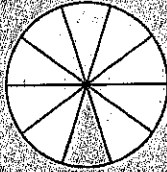
Examples
 $0.2 = 20\%$ ($0.2 \times 100 = 20$)
 $0.85 = 85\%$ ($0.85 \times 100 = 85$)

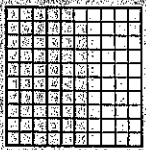

It is useful to know that:
 $\frac{1}{100} = 0.01 = 1\%$, $\frac{2}{100} = 0.02 = 2\%$, etc.
 $\frac{1}{10} = 0.1 = 10\%$, $\frac{2}{10} = 0.2 = 20\%$, etc.
 $\frac{1}{4} = 25\%$, $\frac{1}{2} = 50\%$, $\frac{3}{4} = 75\%$

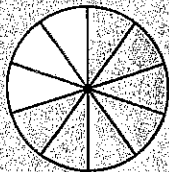
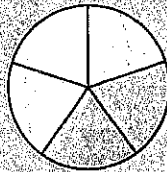
A

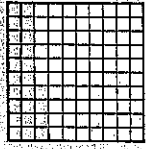
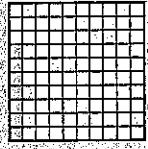
Express each shaded area as:

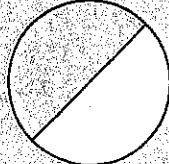
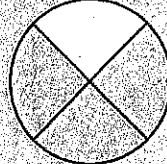
- a) a fraction
 b) a decimal
 c) a percentage.

1  6 

2  7 

3  8 

4  9 

5  10 

- 11 What percentage of the boxes contain:
 a) ticks c) dots
 b) crosses d) triangles?

X		✓	•	
✓	•			✓
		△	✓	•
•	✓		X	

- 12 What percentage of the boxes are blank?

B

- 1 Copy and complete the table.

Fractions	Decimals	Percentages
$\frac{1}{10}$	0.1	10%
		50%
		32%
		90%
	0.18	
	0.25	
	0.02	
	0.4	
$\frac{7}{50}$		
$\frac{3}{4}$		
$\frac{6}{100}$		
$\frac{11}{25}$		
		1%
	0.95	

What percentage could be used in each sentence.

- 2 Half the tissues in the box had been used.
 3 Nineteen of the twenty horses in the race were brown.
 4 The basketball team won four in every five matches played.
 5 Twenty-nine hundredths of the Earth's surface is water.
 6 Ella and Elysia achieved full marks in the Maths Test.
 7 Darren has read three quarters of his book.
 8 Twenty-seven in every fifty visitors to the Museum stayed for more than two hours.
 9 Nine out of the twenty-five balloons in the packet were yellow.
 10 Three in every five chocolates had a soft centre.

C

Write each fraction as:

- a) a decimal
 b) a percentage.

- 1 $\frac{7}{10}$ 3 $\frac{87}{100}$ 5 $\frac{2}{5}$ 7 $\frac{23}{25}$
 2 $\frac{4}{50}$ 4 $\frac{3}{20}$ 6 $\frac{126}{200}$ 8 $\frac{18}{40}$

Write each percentage as:

- a) a fraction in its simplest form
 b) a decimal.

- 9 23% 13 71%
 10 35% 14 0.5%
 11 60% 15 30%
 12 9% 16 17.5%

- 17 Eight children competed for the title School Master Chef. Their task was to produce cakes for the School Fête. Complete the list of results.

Name	Cakes made	Cakes sold	%age sold	%age unsold
Ailsa	50	39		
Bilal	54		50%	
Carmen	40			30%
Digby	60	39		
Esmé	45		80%	
Fred	56			25%
Gail	48	30		
Harry	55		60%	

- 18 Use squared paper.
 Draw a 6×10 grid of 60 boxes.
 a) Colour 25% red.
 b) Colour 20% blue.
 c) Colour 9 boxes yellow.
 d) Write down the percentage of the boxes not coloured.