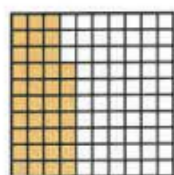


Per cent means out of 100.
Percentages are fractions with a denominator of 100.
The symbol for per cent is %.

Example



$$\frac{37}{100} = 0.37 = 37\%$$

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

Examples



$$\frac{9}{10} = \frac{90}{100} = 90\%$$



$$\frac{1}{4} = \frac{25}{100} = 25\%$$

To express decimals as percentages, multiply by 100.

Examples

$$0.6 = (0.6 \times 100)\% = 60\%$$

$$0.42 = (0.42 \times 100)\% = 42\%$$

It is useful to know that:

$$\frac{1}{100} = 0.01 = 1\%, \frac{2}{100} = 0.02 = 2\%, \text{ etc.}$$

$$\frac{1}{10} = 0.1 = 10\%, \frac{2}{10} = 0.2 = 20\%, \text{ etc.}$$

$$\frac{1}{4} = 25\%, \frac{1}{2} = 50\%, \frac{3}{4} = 75\%.$$

A

Use 10×10 grids of small squares.
Shade in:

- 1 10 squares
- 2 3 squares
- 3 40 squares
- 4 8 squares

Express each shaded area as:

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

- 5 Copy and complete the table.

Fraction	Decimal	Percentage
$\frac{1}{10}$		
$\frac{1}{2}$		
$\frac{1}{100}$		
$\frac{3}{10}$		
1		
	0.25	
	0.6	
	0.17	
	0.9	
	0.75	

Copy the sentences changing each fraction to a percentage.

- 6 Vicki and Jay each had half of the sweets.
- 7 When the bus stopped one quarter of the passengers got off.
- 8 Seven hundredths of the apples were rotten.
- 9 The postman had completed three quarters of his round.
- 10 Seven tenths of the children at the party were 10 years old.

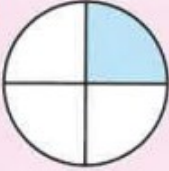


B

Express each shaded area as:

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

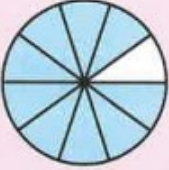
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9



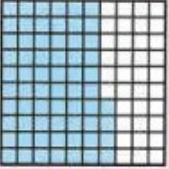
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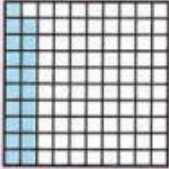
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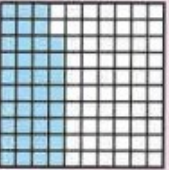
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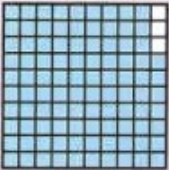
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4



12



5



13



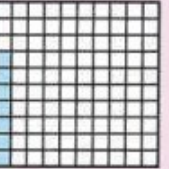
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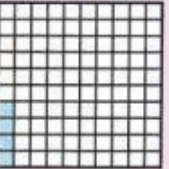
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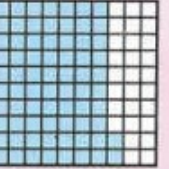
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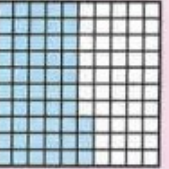
15



8



16

**C**

Write each fraction as

- a) a decimal
b) a percentage.

1 $\frac{3}{10}$

5 $\frac{8}{10}$

9 $\frac{1}{20}$

2 $\frac{79}{100}$

6 $\frac{3}{4}$

10 $\frac{4}{5}$

3 $\frac{1}{2}$

7 $\frac{1}{5}$

11 $\frac{39}{50}$

4 $\frac{7}{10}$

8 $\frac{1}{4}$

12 $\frac{21}{25}$

Write each percentage as:

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

13 10%

17 47%

21 60%

14 1%

18 90%

22 50%

15 40%

19 25%

23 4%

16 75%

20 3%

24 15%

25 17% of the pupils at a school came by bus. What percentage did not come by bus?

26 Hats were worn by 85% of the ladies at a wedding. What percentage did not wear hats?

27 Two fifths of the milk sold in a shop was skimmed milk and 32% was semi skimmed. What percentage was full fat milk?

28 One quarter of the audience at a film were women. 19% were men. What percentage were children?

29 Copy and complete the table.

Item	Total made	Sold	%age sold	%age unsold
Loaves	100	83		
Rolls	200	154		
Pies	25	14		
Pasties	20	13		
Cakes	50	46		