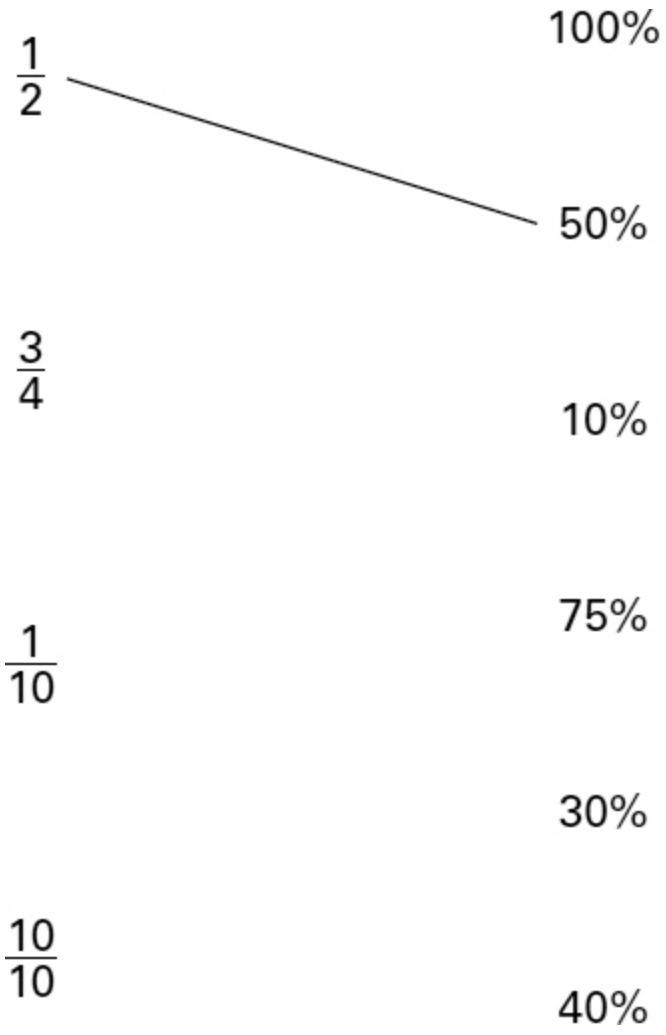
1. Match each fraction to the percentage which has the same value.

One has been done for you.



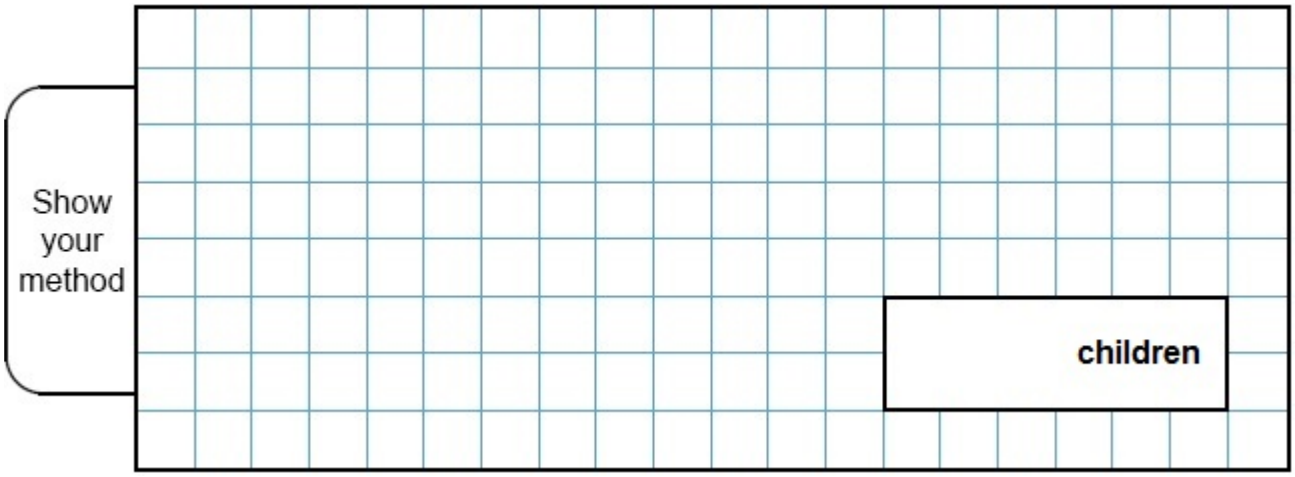
1 mark

2. A school has 400 children.

10% of the children travel to school by car.

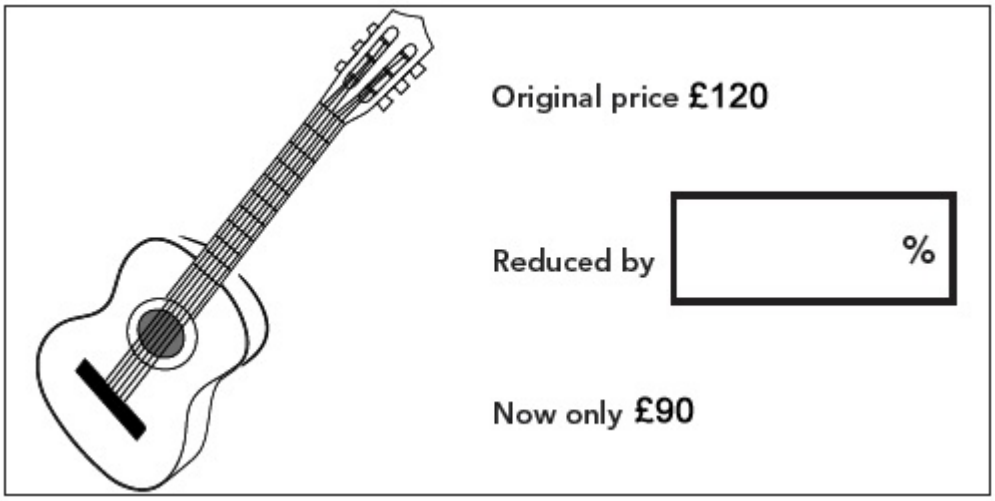
25% of the children travel to school by bus.

How many **more** children travel by bus than by car?



2 marks

3. Write the missing number.



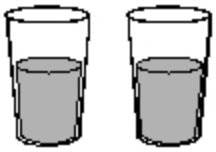
1 mark

4. **Cola**

Some pupils wanted to know if people can taste the difference between supermarket cola and more expensive cola.

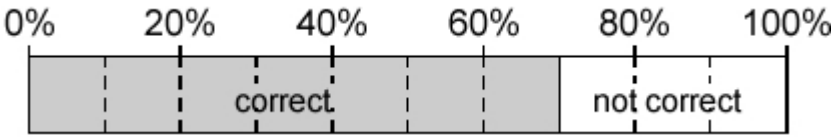
They asked different people to taste two drinks. Then they asked:

Which one is the supermarket cola?



(a) Ali asked 20 people.

The percentage bar chart shows her results.



70% were correct.

What percentage were **not correct?**

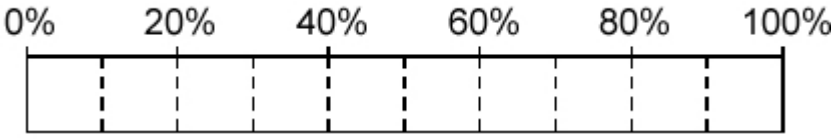
%

1 mark

(b) Brian asked 50 people.

25 out of 50 were correct.

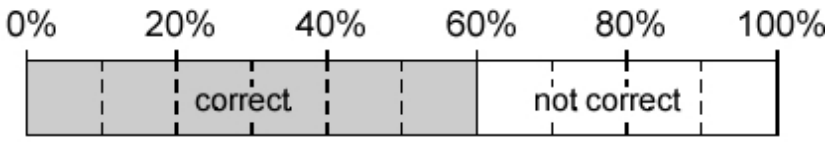
Complete the percentage bar chart to show Brian's results.



1 mark

(c) Caro asked 200 people.

The percentage bar chart shows Caro's results.



How many of the 200 people were correct?

people

1 mark

(d) Ali, Brian and Caro all had different results.

Whose result is likely to be the **most reliable**?

Tick (✓) your answer.

☐ Ali's ☐ Brian's ☐ Caro's

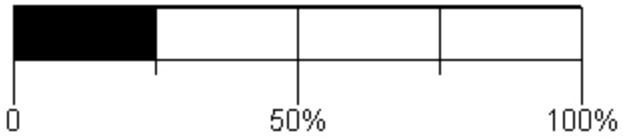
Explain why you chose that answer.

1 mark

5. **Printing**

(a) Kate is using her computer to print a photo.

The **black** bar shows how much of the photo is printed so far.



What **percentage** of the photo is printed so far?

%

1 mark

(b) Each photo takes **20 seconds** to print.

How many **minutes** will it take to print **15** photos?

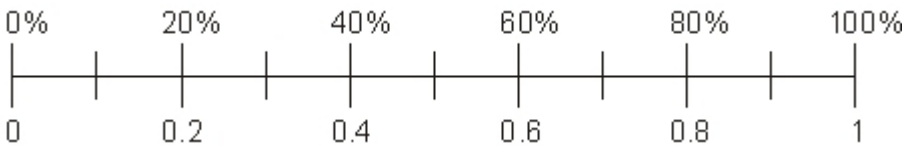
Show your method

minutes

2 marks

6. **Double scale**

The scale shows both percentages and decimals.



Fill in the missing **decimals** in the gaps below.

The first one is done for you.

60% is the same as ___*0.6*___

30% is the same as _____

1 mark

3% is the same as _____

1 mark

7. **Reading**

On World Book Day, each pupil in Year 7 chose one book to read.

Some pupils chose a fiction book. Some chose a non-fiction book.

The two-way table shows that:

Altogether, there were 142 pupils.

68 were boys.

77 pupils chose a fiction book.

36 boys chose a non-fiction book.

Complete the two-way table.

Two-way table

	Boys	Girls	Total
Fiction			77
Non-fiction book	36		
Total	68		142

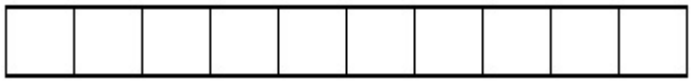
2 marks

8. **Percentages**

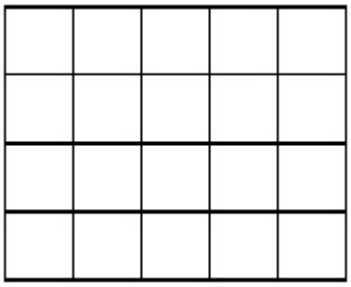
Each diagram in this question is drawn on a square grid.

50% of this diagram is shaded.

Shade **20%** of each of the diagrams below.



1 mark



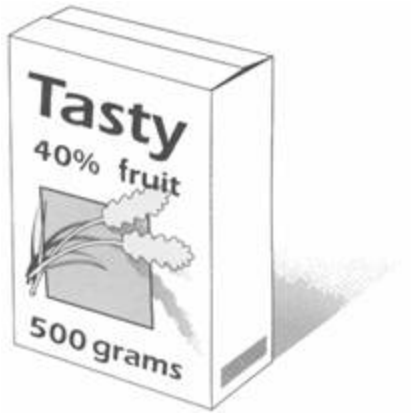
1 mark

9. **Tasty**

A packet of Tasty contains fruit and cereal.

Altogether, the mass of fruit and cereal is **500 g.**

40% of it is **fruit. 60%** is **cereal.**



(a) How many grams of **fruit** does this packet of Tasty contain?

grams

1 mark

(b) How many **60 gram** servings can you get from one packet of Tasty?

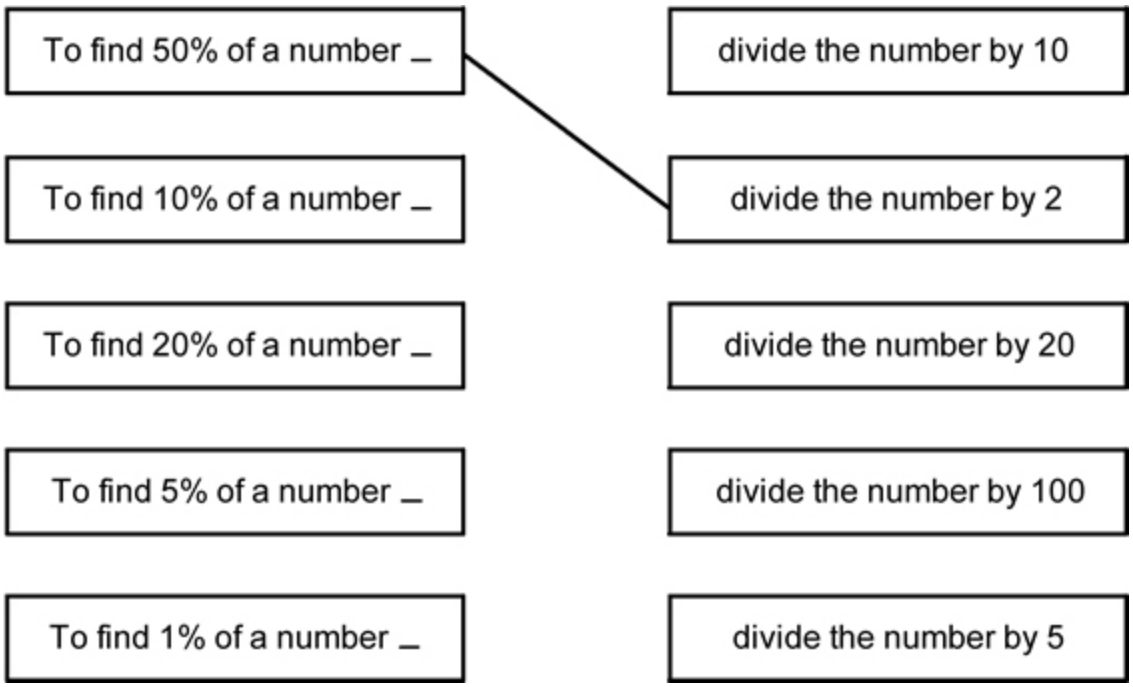
servings

1 mark

10. **Finding percentages**

Draw lines to match the boxes.

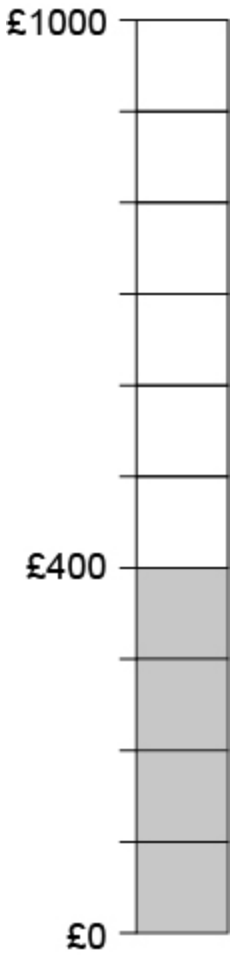
The first one is done for you.



2 marks

11. **Charity**

A class is collecting money for charity.



They want a total of **£1000**

By the end of April, they have collected **£400**

(a) **What percentage** of their total have they collected by the end of April?

%

1 mark

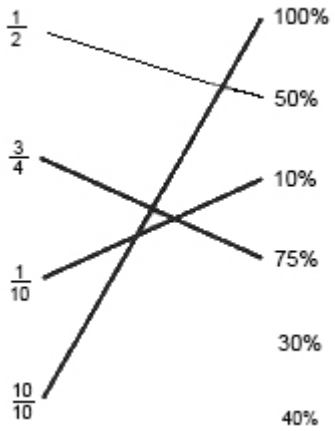
(b) By the end of May, they have collected **85%** of their total.

Shade more of the diagram to show this.

1 mark

Mark schemes

1. All three fractions matched as shown:



All three *lines must be drawn correctly for the award of the mark.*

Lines need not touch the numbers provided the intention is clear.

Do not *accept fractions which have been matched to more than one percentage.*

[1]

2. Award **TWO** marks for a correct answer of 60

If the answer is incorrect, award **ONE** mark for evidence of appropriate working, eg:

- 10% of 400 = 40
  25% of 400 = 100
  100 − 40 = wrong answer

OR

- 25% − 10% = 15%
  15% of 400 = wrong answer

Working must be carried through to reach an answer for the award of ***ONE*** *mark.*

Up to 2m

[2]

3. 25 %

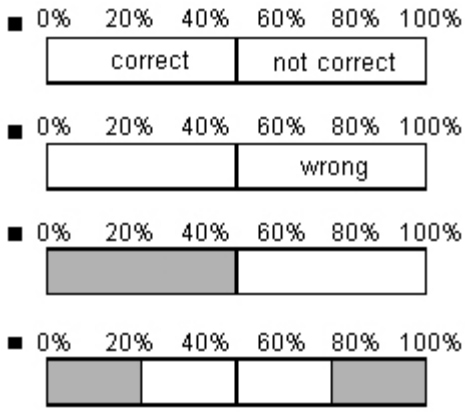
Do not *accept equivalent fractions or decimals.*

[1]

4. (a) 30

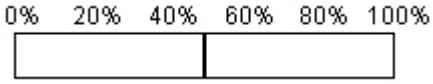
1

(b) Correct response showing a total of **50%** correct, eg

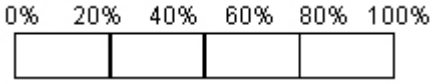


! Chart not labelled or shaded

Accept if two sections only, eg



Do not accept if more than 2 sections



1

(c) 120

Do not accept redundant % sign eg 120%

1

(d) Indicates **Caro's** and explains that she asked the most people, eg

- The more people you ask the more reliable the results are likely to be
- She asked most
- She asked 200, the others asked 20 and 50
- She asked a wider range of people

Accept correct statement accompanied by an incorrect, or ambiguous statement

- *Caro, because she asked more people and anyway more of hers got it correct*

Accept incomplete explanation, eg

- *Only half of Brian's were correct, and she asked more than Ali*
- *Caro, because more of hers got it correct [4]*

1

[4]

5. (a) 25

1

(b) 5, with no evidence of an incorrect method

2

or Shows the value 300

or

Shows or implies that 3 photos take 1 minute

or

Shows or implies a complete correct method, eg
- 15 × 20 ÷ 60
- 15 × 20 = 320 (error), so 5 minutes 20 seconds

or

The only error is to assume that there are 100 seconds in 1 minute, eg
- Gives the answer 3

Do not accept correct answer from an incorrect method, eg
- *20 − 15 = 5*

1

[3]

6. 0.3
Accept equivalent decimals
eg, for the first mark
- *0.30*

1

0.03
! Follow through
Accept follow through as their first mark ÷ 10, provided their first mark was a decimal between 0 and 1 exclusive

1

[2]

7. All five values correct, ie

32	45	77
36	29	65
68	74	142

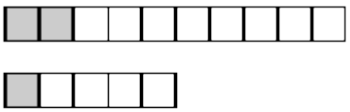
2

or Any three or four values correct
Do not accept follow through from incorrect values

1

[2]

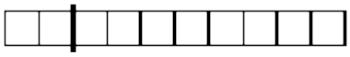
8. Completes the first two diagrams correctly, eg

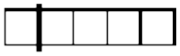
- 

- 

! ***Shading omitted***

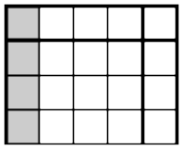
Condone if their response shows the ratio 20 :80, eg for the first two diagrams accept





1

Completes the third diagram correctly, eg

- 

! ***Follow through***

Allow consistent follow through from the first two diagrams, provided the percentage shaded is not 0, 50 or 100, eg for the second mark only, accept

- *40% shaded in all three diagrams*

Otherwise do not accept, eg

- *40% shaded in only the second and third diagrams*

1

[2]

9. (a) 200

1

(b) 8

! ***Remainder shown***

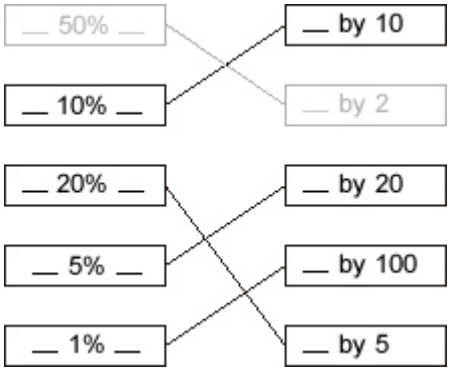
Ignore the remainder, even if incorrect eg, accept

- 8 or 20
- 8 and a bit
- 8.20

1

[2]

10. Matches all four statements correctly, ie



! ***Statement on the left-hand side matched to more than one method on the right-hand side***

For 2m or 1m, do not accept as a correct match

2

or Matches the statement about finding 20% of a number correctly

or

Matches the statement about finding 5% of a number correctly

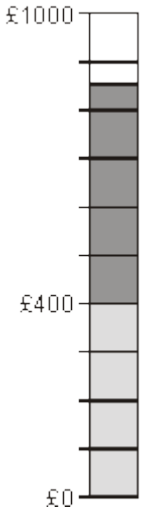
1

[2]

11. (a) 40

1

(b) Indicates on the diagram the amount £850, eg



! Indication not accurate or diagram not shaded

Accept provided the pupil's intention is clear

! Unconventional indication of half a square

Accept provided unambiguous eg, for half a square accept

1

[2]