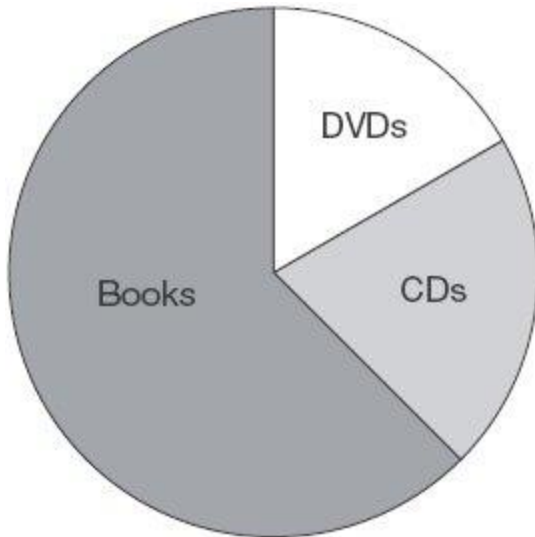


Hot Reasoning Week 7 Year 5

Q1. A shop sells books, CDs and DVDs.

This pie chart shows the sales of each in one week.



Estimate the **fraction** of the total sales that were DVDs.

$\frac{\quad}{\quad}$

1 mark

In this week, 200 **CDs** were sold.

Estimate how many books were sold.

$\frac{\quad}{\quad}$

1 mark

Q2. A farmer has £1200 to buy apple trees and pear trees.

Apple trees cost £24.75 each.

Pear trees cost £12.50 each.



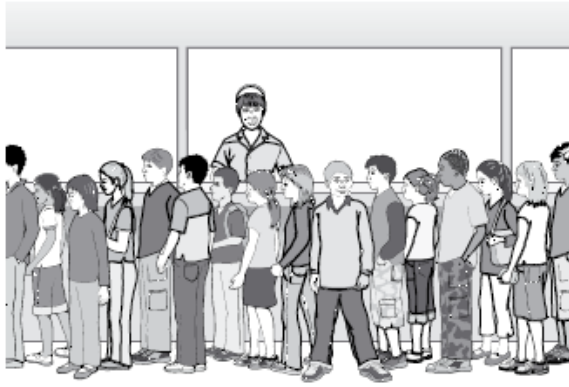
He buys 35 apple trees.

How many pear trees can he buy with the money he has left?



Show your method

2 marks



Q3.

There are 25 children in the lunch queue, including Nik.

Nik says,

'There are twice as many children in front of me as there are behind me.'

How many children are **in front** of Nik?



Show your working

children

2 marks

Q4. A 5p coin has a diameter of 1.8 centimetres.



Holly makes a straight line of 5p coins worth £10



How long is Holly's line?
Give your answer in **metres**.

 Show your **method**.
You may get a mark.

m

2 marks

Q5. Here are some number cards.



Joe picks two **even** numbers.
Dev picks two **odd** numbers.

Joe gives one of his cards to Dev.
Dev gives one of his cards to Joe.

Joe says,

'Now my cards are both square numbers'.

Dev says,

'Now my cards are both multiples of 5'.

What numbers did they each start with?

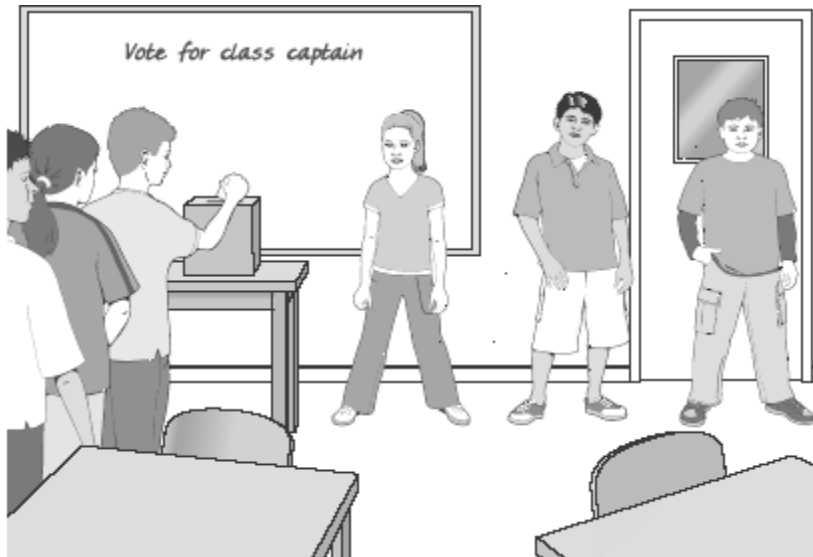
Handwritten mark

Joe started with and

Dev started with and

2 marks

Q6.



All the children in Class 6 vote to pick a class captain.

The choice is Holly or Dev or Joe.

	Vote once ✕
Holly	<input type="checkbox"/>
Dev	<input type="checkbox"/>
Joe	<input type="checkbox"/>

Dev gets 10% of the votes.

Joe gets twice as many votes as Holly.

What percentage of the votes does the winner get?

	<input type="text"/>	%
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1 mark

ANSWERS!!

M1. (a) Answer in the range $\frac{13}{100}$ to $\frac{1}{5}$ inclusive

Range includes $\frac{1}{6}$ and $\frac{1}{7}$

Accept decimals or percentages.

(0.13 to 0.2 inclusive)

(13% to 20 % inclusive)

1

(b) Answer in the range 500 to 800 inclusive

1

M2. 26

Do not accept answer of £26

2

or

Shows or implies a complete method with not more than one computational error or rounding error

eg

• $35 \times 24.75 = 860$ (error) $1200 - 860 = 340$ $340 \div 12.5 = 27.2$ Answer = 27

• $(1200 - 35 \times 24.75) \div 12.5$

• $1200 - 866.25 = 333.75$ $333.75 \div 12.5$

or

26.7 seen

or

Shows the correct total for the trees, ie £1191.25

or

Shows the correct change, ie £8.75

Do not accept answer of 27 without a correct method shown or implied

! Method used for $\div 12.5$ is repeated subtraction Do not accept as a correct method

1

M3. 16

2

or

8

or

Answer of 17 with $\frac{50}{3}$ or equivalent seen (the only error is to fail to subtract 1 at the start)

or

Shows understanding of a correct method even if there are computational errorseg

- $\frac{2}{3} \times 24 = 12$

Do not accept answer of 17 without $\frac{50}{3}$ or equivalent seen

1
U1

M4. Award TWO marks for the correct answer of 3.6

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

- $10 \div 0.05 = 200$
 $200 \times 1.8 = 360$
 $360 \div 100$

OR

- 20 5p coins make £1
200 5p coins make £10
 200×0.018

*Answer must be in metres for the award of **TWO** marks.*

*Accept for **ONE** mark 360 centimetres.*

*If the answer is incorrect, accept for **ONE** mark an answer of 36 multiplied by any power of 10 with no evidence of an incorrect method.*

*Answer need not be obtained for the award of **ONE** mark.*

Up to 2

M5. Award **TWO** marks for

Joe

10

 AND

16

Joe's even numbers may be given in either order.

AND

Dev

9

 AND

15

Dev's odd numbers may be given in either order.

If the answer is incorrect, award **ONE** mark for:

- three numbers correctly attributed

OR

- 9 **AND** 10 **AND** 15 **AND** 16 with some or all attributed to the wrong child.
Up to 2 (U1)

M6. 60%