Hot Reasoning Week 3 Year 5

Q1.   427 children visit a castle.

They go in groups of 15. One group has less than 15.
Every group of children has **one** adult with them.

How many **adults** will need to go?

1 mark

Mr Todd buys **7 drinks** at **48p** each and **8 drinks** at **52p** each.
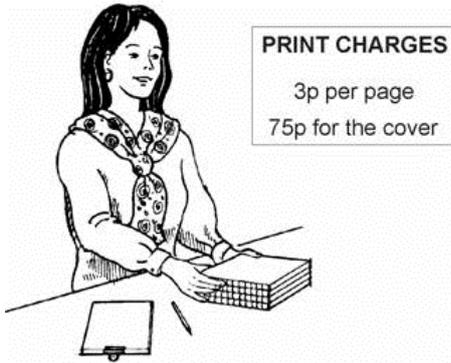
What is the **total** cost of the 15 drinks?

You **must** show your working.

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

£

2 marks

Q2.   Mrs Jones prints books.

PRINT CHARGES
3p per page
75p for the cover

Jon pays **£4.35** for his book, **including the cover.**

How many **pages** are in his book?

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

2 marks

Here are the print prices again.

3p per page and 75p for the cover.

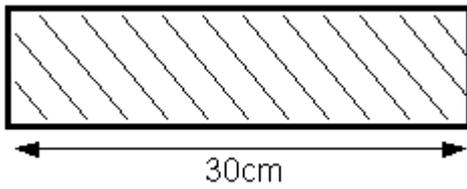Write a formula for the **total cost** of printing a book with cover.

t stands for the total cost in pence.
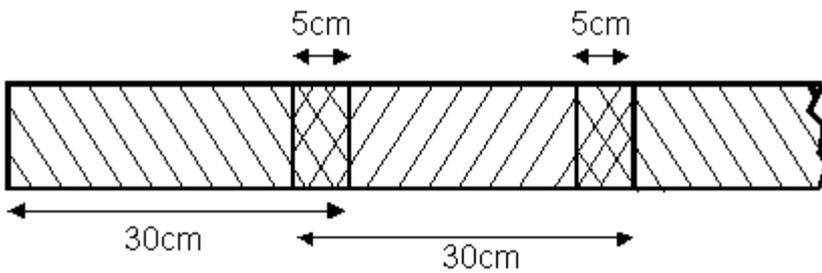
Use **n** for the number of pages.

t =

2 marks

Q3. Strips of paper are each **30 centimetres** long.

30cm

Steve joins strips of paper together to make a **streamer.**

The strips overlap each other by **5cm.**

5cm   5cm

30cm   30cm

How long is a streamer made from **only 2 strips**?

cm

1 mark

Sunita makes a streamer that is **280cm** long.

How many **strips** does she use?

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

2 marks

Q4. There are 60g of rice in **one** portion.

How many portions are there in a 3kg bag of rice?

Q5.

2753 people go to a sports event.

Each person pays **£2.30** for a ticket.

What is the **total** amount of **ticket money** collected?

£

Programmes cost **65p** each.

The total money from programme sales is **£612.95**

How many programmes are sold?

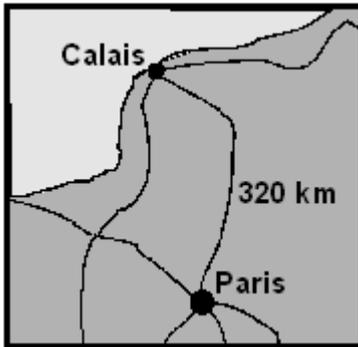Show your **working**. You may get a mark

Q6.   Here is a map of part of France.

The map shows that the distance from Calais to Paris is **320 kilometres.**

5 miles is approximately **8 kilometres.**

Use these facts to calculate the approximate distance in **miles** from Calais to Paris.

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

| | miles |

2 marks

Samira bought this present in France.

44.85 FF

She paid **44.85 French Francs** for it.

9.75 French Francs equal **£1**

What was the cost of the present in **pounds and pence?**

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

£

2 marks

ANSWERS

M1.   (a)   29

1

(b)   Award **TWO** marks for £7.52 **with** appropriate working (see below), even if there is an error in the working.

If answer is incorrect, award **ONE** mark for use of an appropriate method and a partially correct computation, eg:

- $7 \times 48 + 8 \times 52 = 336 + 406$ (incorrect second part)

- $7(48 + 52) + 52 = 7 \times 100 + 52 = 742$ (incorrect)

- $7 \times 40 + 7 \times 8 + 8 \times 50 + 8 \times 2 = 7 \times 47 \times 16 \times 58 \times 2$ (incorrect)

*Accept £7.52 **OR** £7 52p **OR** £7 52 **OR** answers in words **OR** combination of numbers and words.*

*Mark can **only** be awarded for evidence of calculation taking place. It cannot be awarded if the expression is set out but partially correct computation is **not** in evidence.*

Up to 2

[3]

M2.   (a)   Award **TWO** marks for correct answer of 120 OR 95 (if book is assumed to have two covers)

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

- $435 - 75 = 360$
  $360 \div 3$

- $435 - 150 = 285$
  $285 \div 3$

Up to 2

(b)   Award **TWO** marks for correct algebraic expression equivalent to $t = 3n + 75$, OR $t = 3n + 150$, eg:

- $t = 3 \times n + 75$

- $t = 75 + n3$

If expression is incorrect award **ONE** mark for evidence of $3 \times n$, eg:

- $3n + 750$

OR evidence of addition of 75 (or 150) to an expression involving n, eg:

- $n + 75$

No mark is awarded for the expression in words.

Accept inclusion of 'p' in expression, eg:

- **3p × n + 75p**

> *Accept 'use of N' as well as n.*
>
> *Answer to 20b must be consistent with answer to 20a, ie if 2 covers are assumed in 20a, they should be assumed in 20b.*
>
> **Up to 2**

M3.   (a)   55

                                   1

         (b)   Award **TWO** marks for the correct answer of 11

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

- 280 – 30 = 250

- (250 ÷ 25) + 1 = incorrect answer.

                                     up to 2

                                        [3]

M4.   50 (portions)

                                         [1]

M5.   (a)   £6331.90

> *Accept £6331.90p **OR** £6331 90*
>
> ***Do not** accept £6331.9*

                                   1

         (b)   Award **TWO** marks for the correct answer of 943.

            If the answer is incorrect, award **ONE** mark for evidence of an appropriate method, eg 61295 ÷ 65 **OR** 612.95 ÷ 0.65

> ***Do not** accept 612.95 ÷ 65.*
>
> *Calculation need not be performed for the award of the mark.*
>
> **Up to 2**

                                        [3]

M6.   (a)   Award **TWO** marks for the correct answer of 200

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

            320 ÷ 8 × 5

> *Calculation need not be performed for the award of the mark.*
>
> **Up to 2**

         (b)   Award **TWO** marks for the correct answer of £4.60

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

44.85 ÷ 9.75

> *Accept for **TWO** marks £4 60 **OR** £4-60 **OR** £4.60p*
>
> *Accept for **ONE** mark £4.6 **OR** £460p **OR** £460 as evidence of an appropriate method.*
>
> *Calculation need not be performed for the award of the mark.*

Up to 2