

Ma

KEY STAGE

2

LEVEL

6

Mathematics

Paper 2

Calculator allowed

2015

| | | | | | | |
|---------------|-----|--|-------|--|------|--|
| First name | | | | | | |
| Middle name | | | | | | |
| Last name | | | | | | |
| Date of birth | Day | | Month | | Year | |
| School name | | | | | | |
| DfE number | | | | | | |

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Please do not write on this page.

Instructions

You **may** use a calculator to answer any questions in this paper.

Work as quickly and as carefully as you can.

You have **30 minutes** for this test.

If you cannot do one of the questions, **go on to the next one**.

You can come back to it later, if you have time.

If you finish before the end, **go back and check your work**.

Follow the instructions for each question carefully.



This shows where you need to put the answer.

If you need to do working out, you can use any white space on a page.

Do not write over any barcode.

Some questions have an answer box like this:



For these questions you may get a mark for showing your method.



1

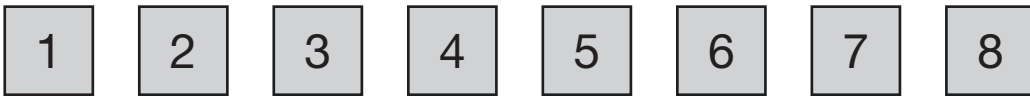
g stands for a number on a grey card.

w stands for a number on a white card.

Join all pairs of numbers that match this rule:

$$2g + w = 10$$

One is done for you.



2 marks



2

(a) 1 kilogram of grapes costs £5.80

Megan buys 700 grams of grapes.

How much does she pay?



1 mark

(b) 1 kilogram of cheese costs £13.50

Megan buys a piece of cheese costing £2.49



What is the mass of the cheese to the **nearest 100 grams**?



Show
your
method

2 marks



3

There are 90 children in Year 6 at Woodland Junior School.

They are split into three classes.

| Class | Number in class |
|-------|-----------------|
| 6M | 27 |
| 6P | 33 |
| 6T | 30 |

Each child chose football **or** netball **or** hockey.

In **6M**, 13 children chose hockey.

The rest of the class were split equally between football and netball.

In **6P**, 9 children chose netball.

Twice as many children chose football as chose hockey.

In **6T**, the ratio of children who chose football to netball to hockey was 1:2:3

Complete this table.



| Class | Number in class | Football | Netball | Hockey |
|-------|-----------------|----------|---------|--------|
| 6M | 27 | | | 13 |
| 6P | 33 | | 9 | |
| 6T | 30 | | | |

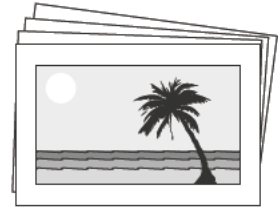
2 marks



4

Alfie has some photographs printed.

The cost is £2.50 for postage and
12 pence for each print.



Alfie uses this formula for the total cost (**C**) in pence.

$$C = 250 + 12n$$

n stands for the number of photographs.

The total cost for Alfie is **£6.70**

How many photographs does he have printed?



Show
your
method

2 marks



5

A bag contains coloured counters.

20 red counters numbered 1 to 20


50 blue counters numbered 1 to 50

100 green counters numbered 1 to 100



Chen is going to pick one counter without looking.


- (a) What is the probability of picking a counter with the number 40 on it?



1 mark

- (b) The counter Chen picks is **red**.

What is the probability that it has the number 15 on it?

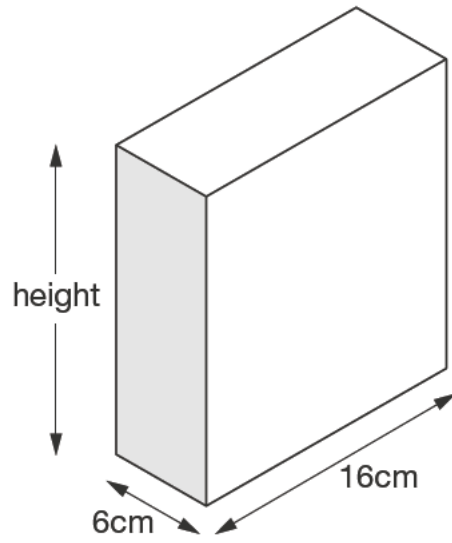
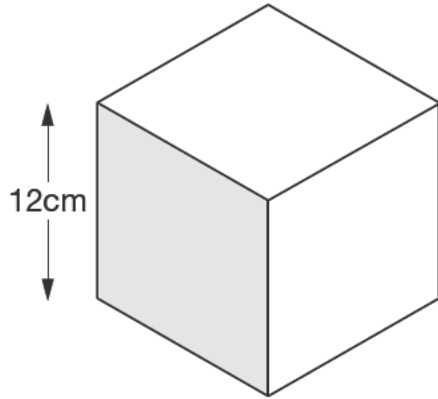


1 mark



6

The cube and cuboid have **equal volumes**.



**Not actual
size**

Calculate the height of the cuboid.



Show your method

cm

2 marks



7

n and p stand for two numbers.

n is a multiple of 5

p is a multiple of 6

$$\frac{n}{p} = \frac{2}{3}$$

Find numbers that n and p stand for.



Show
your
method

$n =$

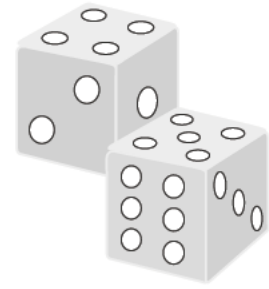
$p =$

2 marks

8

Two fair dice are each numbered from 1 to 6

The dice are rolled. The numbers are added together to make a total.



Total 9

Jack says,

'The totals 3 and 9 are equally likely.'

Explain why Jack is **not** correct.

A large, cloud-shaped outline intended for the student to write their explanation.

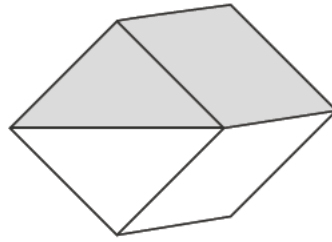
1 mark



9

Here is a cube.

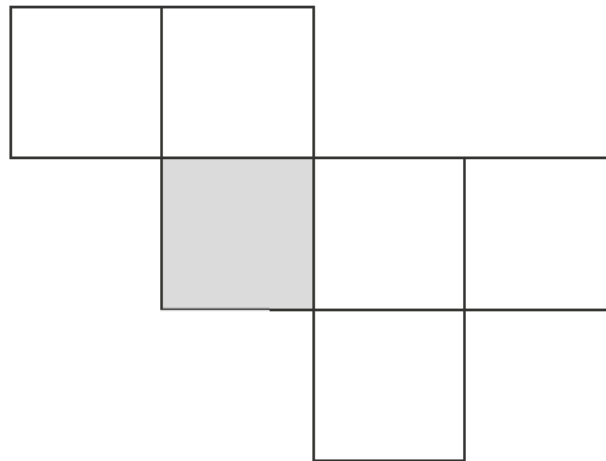
The top half of the cube has been shaded all the way round.



Here is a net for the cube.

One square has been shaded for you.

Shade more of the net so that it could fold to make the cube above.



2 marks




10

In a survey of children's favourite fruit juices, these were the results.

| Juice | Apple | Orange | Grape | Mango |
|------------------------|-------|--------|-------|-------|
| Percentage of children | 25% | 14% | 30% | 31% |

- (a) **20 more** children chose grape than chose apple.

How many children took part in the survey?

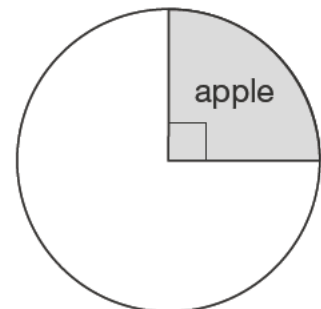
 Show your method

children

2 marks

- (b) Chen makes a pie chart to show the results.

What **angle** should he use for the children who chose **mango**?



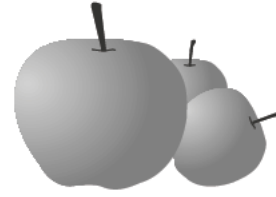


1 mark



11

Three apples have a **mean** (average) mass of 100 grams.



The largest apple is removed.

The **mean** mass of the remaining two apples is 70 grams.

What is the mass of the largest apple?



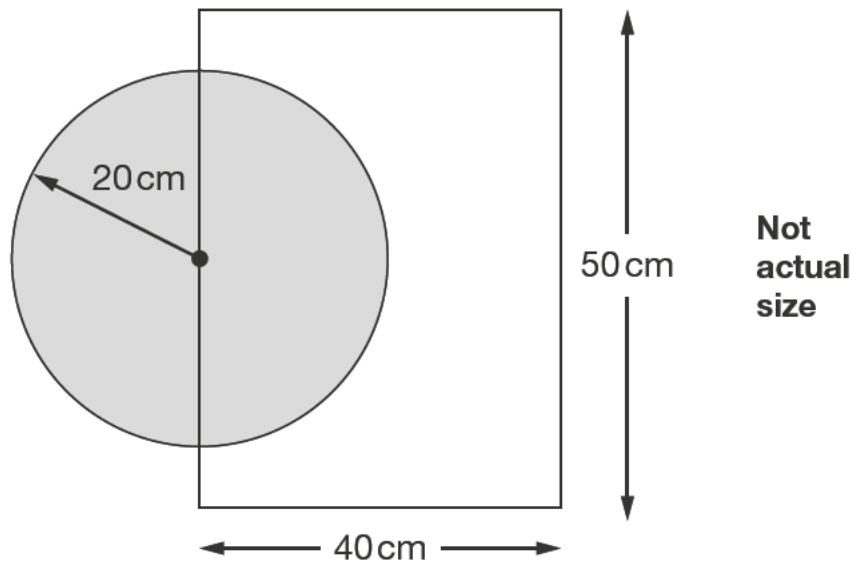
Show
your
method

g

2 marks

12

The diagram shows a rectangle and a shaded circle with radius 20 cm.



Calculate the **area** of the rectangle that is **not** shaded.

Use this formula:

The area of a circle is $3.14 \times (\text{radius})^2$

Show
your
method

cm²

3 marks





Standards
& Testing
Agency

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