Ma

KEY STAGE 2

LEVEL 6

2015

Mathematics

Paper 2

Calculator allowed

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

P 0 0 1 4 0 A 0 1 1 6

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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.

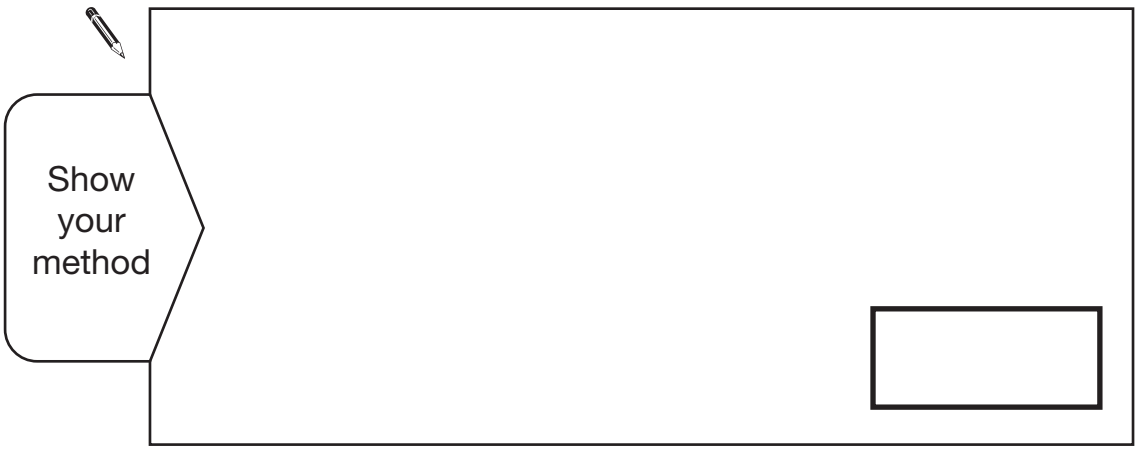
If you finish before the end, **go back and check your work**.

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.

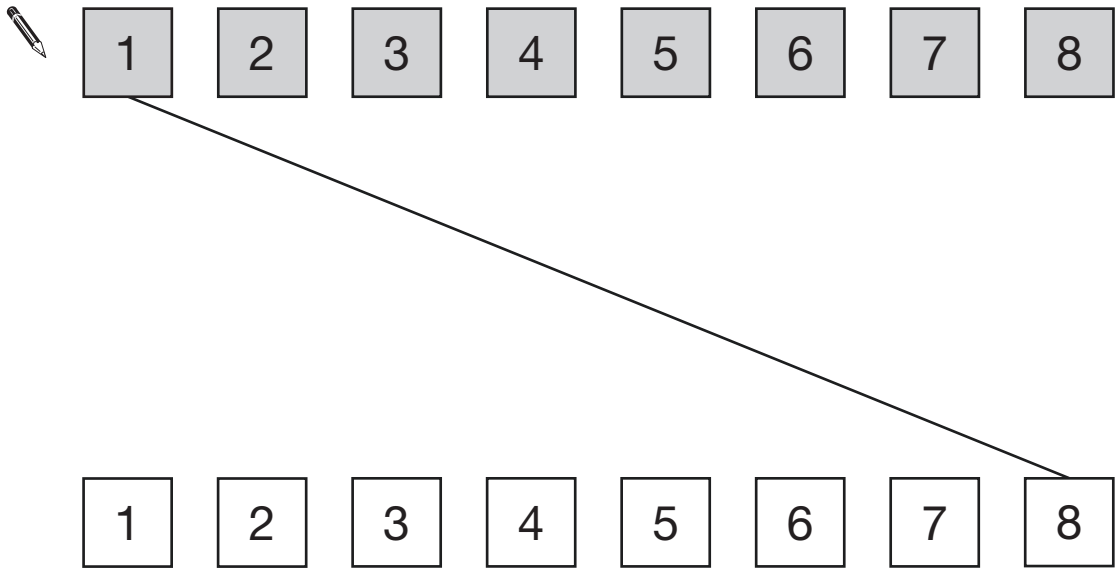
1 g stands for a number on a grey card.

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

g

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.

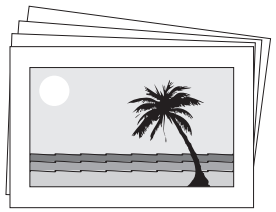
In **6T**, the ratio of children who chose
football to netball to hockey was 1:2:3

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.

$$\mathbf{C} = 250 + 12\boldsymbol{n}$$

$\boldsymbol{n}$ 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

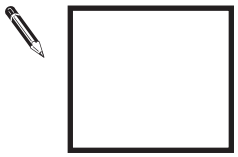
Chen is going to pick one counter without looking.

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

1 mark

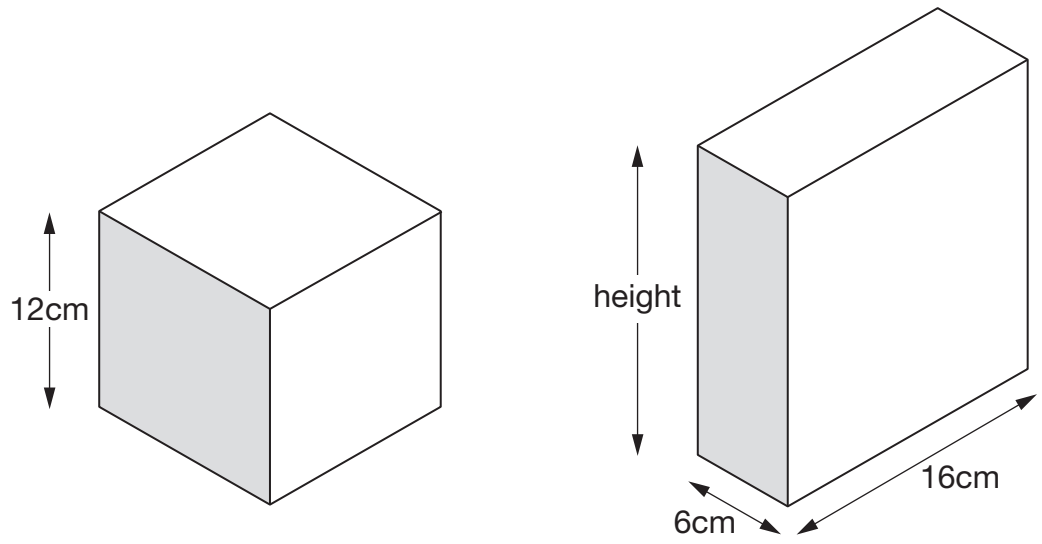
(b) The counter Chen picks is **red**.

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

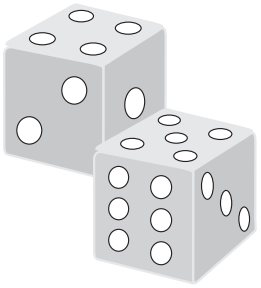
$n =$

$p =$

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,

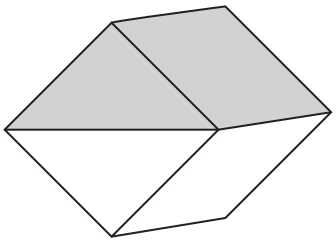
'The totals 3 and 9 are equally likely.'

Explain why Jack is **not** correct.

1 mark

9 Here is a cube.

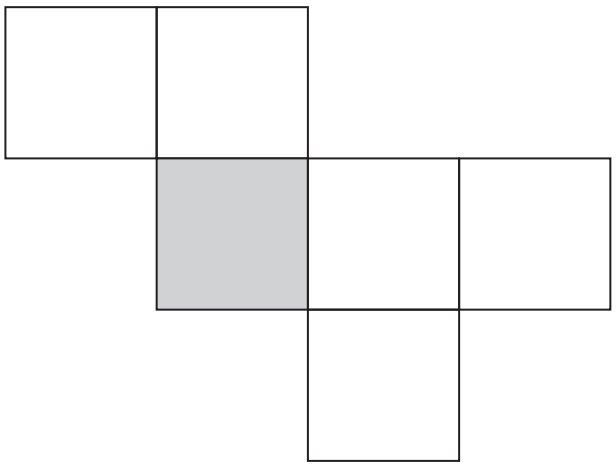
The top half of the cube has been shaded all the way round.



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?

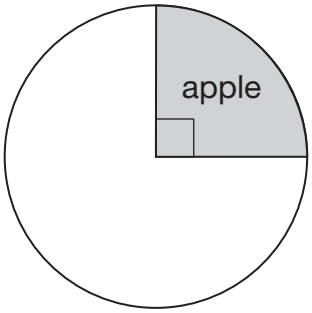
Show your method

children

2 marks

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

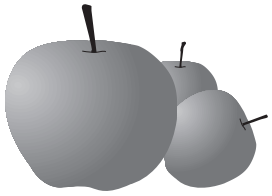
What **angle** should he use for the children who chose **mango**?



°

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.

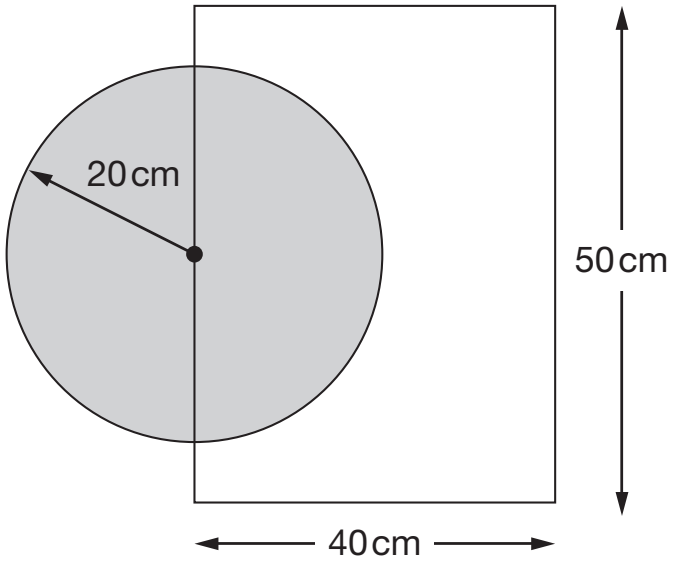
What is the mass of the largest apple?

Show your method

g

2 marks

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



Not actual size

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

Use this formula:
The area of a circle is **3.14 × (radius)^2**

Show your method

cm^2

3 marks

Standards & Testing Agency

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