Mock Grade 4

Maths Booklet 6

Paper 3H
Calculator

1 The table shows information about the heights of some people.

Height (cm)	Frequency
$140 < h \leqslant 150$	7
$150 < h \leqslant 160$	25
$160 < h \leqslant 170$	24
$170 < h \leqslant 180$	29

(a) Find the class interval that contains the median.

....

(1)

(b) Draw a frequency polygon for the information in the table.

Height (h cm)

(2)
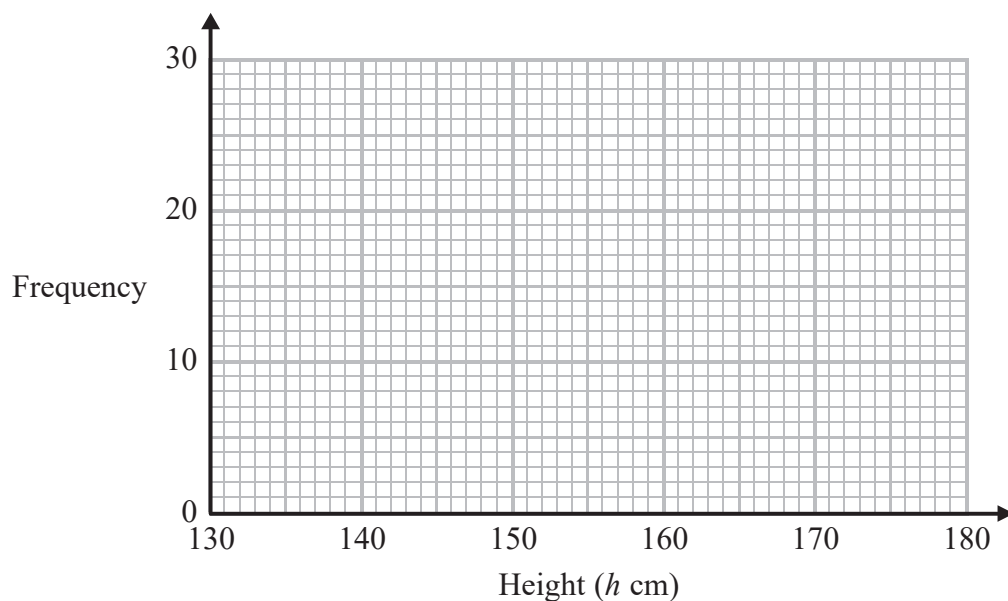
(Total for Question 1 is 3 marks)

2 In London, 1 litre of petrol costs 153.9p
In New York, 1 US gallon of petrol costs $4.08

  1 US gallon = 3.785 litres
  £1 = $1.23

In which city is petrol better value for money, London or New York?
You must show your working.

(Total for Question 2 is 3 marks)

3 A gold bar has a mass of 18.8 kg.

  The density of gold is 19.3 g/cm^3

Work out the volume of the gold bar.
Give your answer correct to 3 significant figures.

.... cm^3

(Total for Question 3 is 3 marks)

4 There are only blue pens, green pens and red pens in a box.

The ratio of the number of blue pens to the number of green pens is 4 : 9
The ratio of the number of green pens to the number of red pens is 5 : 3

There are less than 00 pens in the box.

What is the greatest possible number of red pens in the box?

....

(Total for Question 4 is 3 marks)

5 (a) Find the value of the reciprocal of 2.7
Give your answer as a decimal.

....
(1)

Jess rounds a number, x, to one decimal place.
The result is 9.9

(b) Write down the error interval for x.

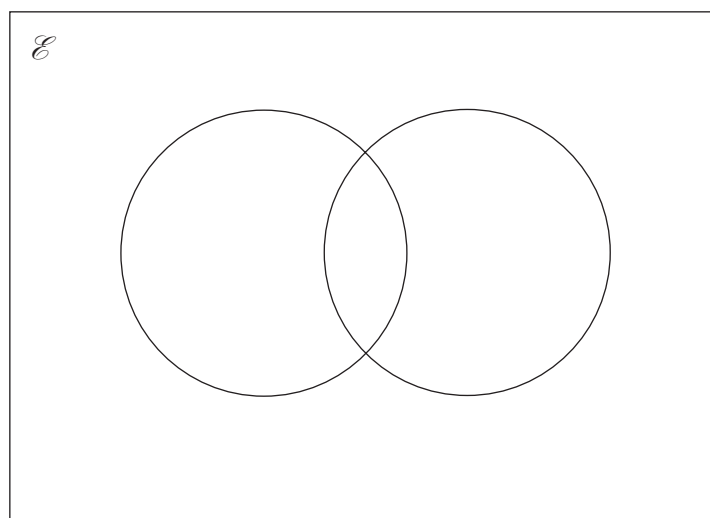...
(2)

(Total for Question 5 is 3 marks)

6 $\mathcal{E}$ = {even numbers less than 30}
A = {4, 10, 18, 24, 28}
B = {10, 16, 24, 26}

(a) Complete the Venn diagram to represent this information.

(4)

A number is chosen at random from the universal set, $\mathcal{E}$.

(b) What is the probability that the number is in the set $A \cup B$?

....

(2)

(Total for Question 6 is 6 marks)

7 Solve the simultaneous equations

$$2x + 5y = 4$$
$$7x - 5y = -1$$

$x =$ ....

$y =$ ....

(Total for Question 7 is 3 marks)

8 The table shows some information about the dress sizes of 25 women.

Dress size	Number of women
8	8
10	5
12	6
14	6

(a) Find the median dress size.

....
(1)

3 of the 25 women have a shoe size of 7

Zoe says that if you choose at random one of the 25 women, the probability that she has

either a shoe size of 7 or a dress size of 14 is $\dfrac{9}{25}$ because

$$\dfrac{3}{25} + \dfrac{6}{25} = \dfrac{9}{25}$$

(b) Is Zoe correct?
You must give a reason for your answer.

....

....
(1)

(Total for Question 8 is 2 marks)

9 Daniel bakes 1260 cakes.

He bakes only vanilla cakes, banana cakes, lemon cakes and chocolate cakes.

$\dfrac{3}{7}$ of the cakes are vanilla cakes.

45% of the cakes are banana cakes.

The ratio of the number of lemon cakes to the number of chocolate cakes is 4 : 5

Work out the number of lemon cakes Daniel bakes.

....

(Total for Question 9 is 5 marks)