FOR OFFICIAL USE

F

KU	RE

Total Marks

2500/401

NATIONAL QUALIFICATIONS 2007

THURSDAY, 3 MAY
9.00 AM – 9.20 AM

MATHEMATICS
STANDARD GRADE
Foundation Level
Paper 1
Non-calculator

Fill in these boxes and read what is printed below.

Full name of centre

Town

Forename(s)

Surname

Date of birth
Day Month Year

Scottish candidate number

Number of seat

1 **You may NOT use a calculator**.

2 Answer as many questions as you can.

3 Write your working and answers in the spaces provided. Additional space is provided at the end of this question-answer book for use if required. If you use this space, write clearly the number of the question involved.

4 Full credit will be given only where the solution contains appropriate working.

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LI 2500/401 6/42170

	Marks	KU	RE
1. Work out the answers to the following.			
(*a*) 1375 + 462			
WORKING			
ANSWER	**1**		
(*b*) 5·23 × 4			
WORKING			
ANSWER	**1**		
(*c*) $\frac{1}{8}$ of 120 metres			
WORKING			
ANSWER metres	**2**		

	Marks	KU	RE

2.

Fred bought a bicycle in this sale.

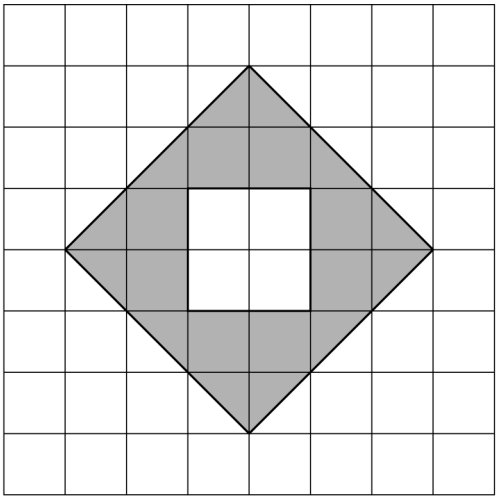
The marked price was £150.

How much money was taken off the marked price?

WORKING	
ANSWER	£

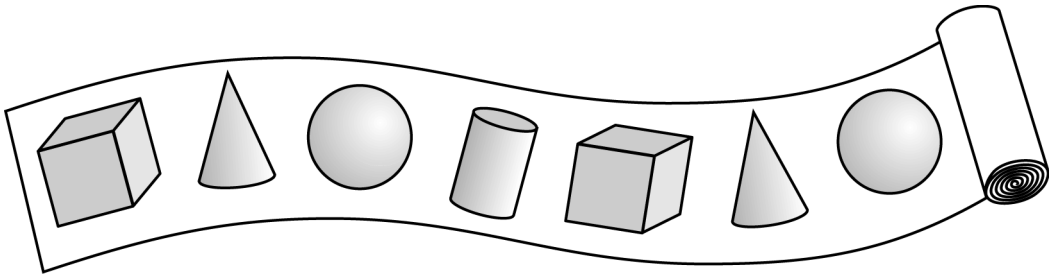
2

	Marks	KU	RE
3. Draw an enlargement of this shape on the grid below. Make each of its sides twice as long.	**4**		

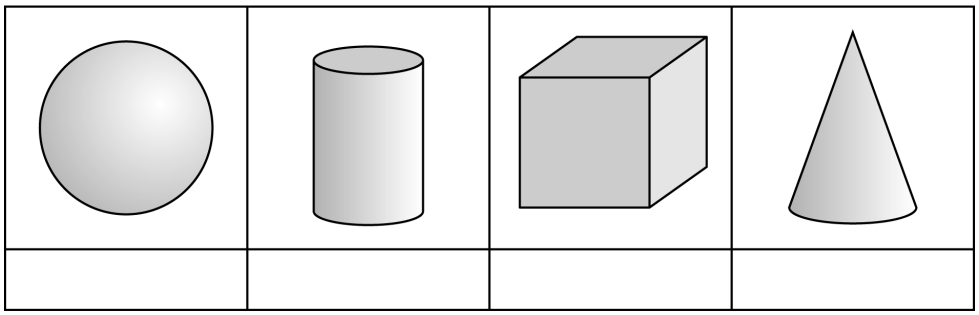


	Marks	KU	RE

4. When George decorates his son's bedroom, he uses a wallpaper border.



(*a*) Tick (✓) the **next** shape George will see as he continues to unroll the border.



1

(*b*) Write down the mathematical name of the shape you have ticked.

ANSWER	

1

	Marks	KU	RE

5. Sheila's car can travel 20 kilometres on 1 litre of fuel.

She is planning a journey of 140 kilometres.

How many litres of fuel will Sheila need for the journey?

WORKING			
ANSWER	litres	**2**	

	Marks	KU	RE

6. Pauline is given a film on DVD for her birthday.

The film has a running time of 135 minutes.

Pauline starts to watch the film at 7.50 pm.

She wants to watch the television programme, Football Highlights, which starts at 10.15 pm.

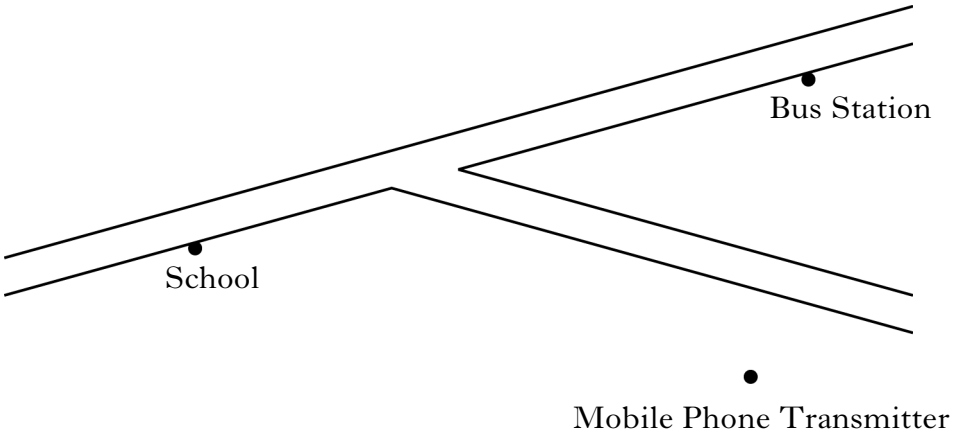
When the film ends, how long will it be until the start of Football Highlights?

WORKING	
ANSWER	minutes

4

	Marks	KU	RE

7. This map shows the positions of a School, a Bus Station and a Mobile Phone Transmitter.



(*a*) Measure the distance from the School to the Bus Station **on the map**.

ANSWER	centimetres	**1**		

(*b*) The scale of the map is **1 centimetre represents 100 metres**.

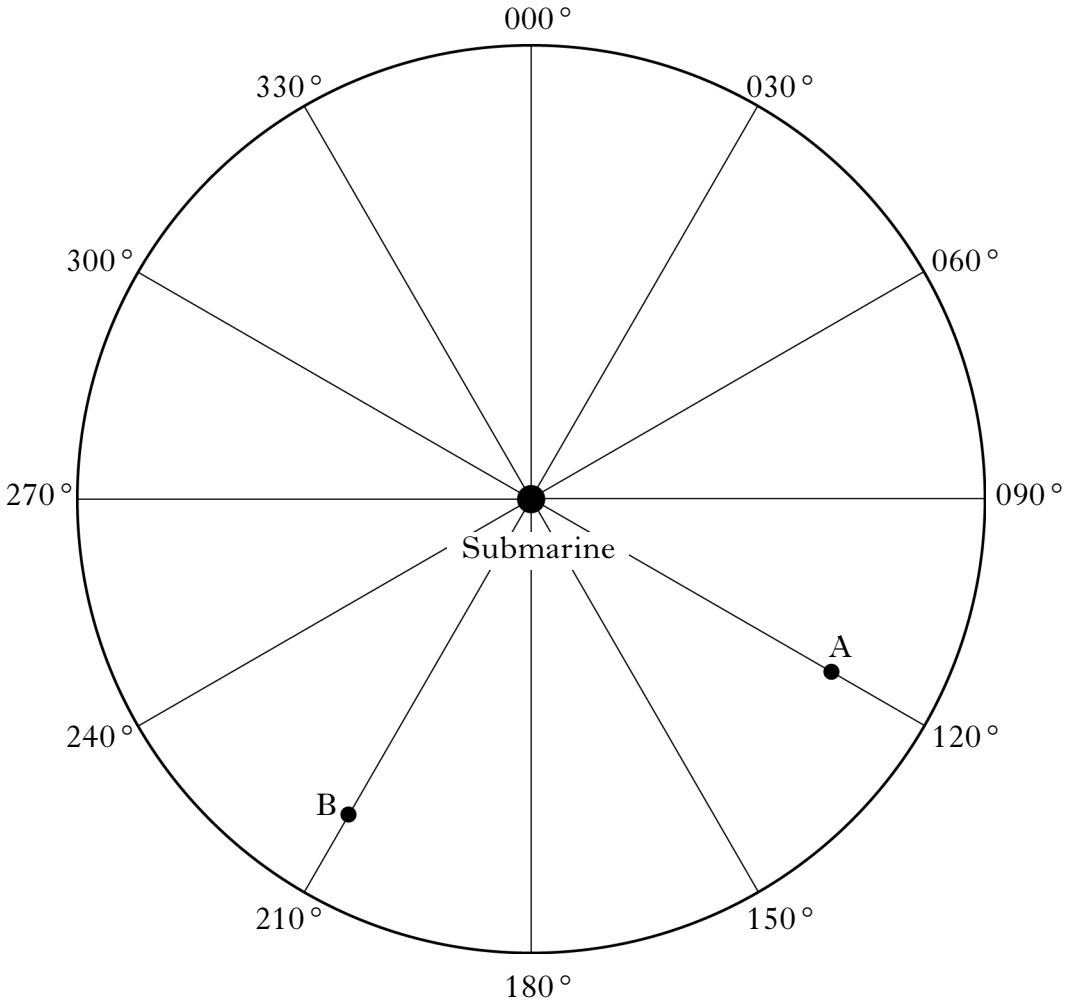
Find the actual distance from the School to the Bus Station.

WORKING				
ANSWER	metres	**2**		

		Marks	KU	RE
7.	**(continued)**			
	(*c*) New safety regulations state that mobile phone transmitters should be more than **1 kilometre** from any school. Is the Mobile Phone Transmitter shown on the map a safe distance from the School? **You must give a reason for your answer.**			
	WORKING			
	ANSWER INCLUDING REASON	**3**		

	Marks	KU	RE

8. Rebecca is on a submarine looking at the radar screen.



A and B show the positions of two ships.

Ship A is on a bearing of 120° from the submarine.

Write down the bearing of ship B from the submarine.

ANSWER		°

1

[*END OF QUESTION PAPER*]

ADDITIONAL SPACE FOR ANSWERS

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F

KU	RE

Total Marks

2500/402

NATIONAL QUALIFICATIONS 2007

THURSDAY, 3 MAY
9.40 AM – 10.20 AM

MATHEMATICS
STANDARD GRADE
Foundation Level
Paper 2

Fill in these boxes and read what is printed below.

Full name of centre

Town

Forename(s)

Surname

Date of birth
Day Month Year

Scottish candidate number

Number of seat

1 **You may use a calculator**.

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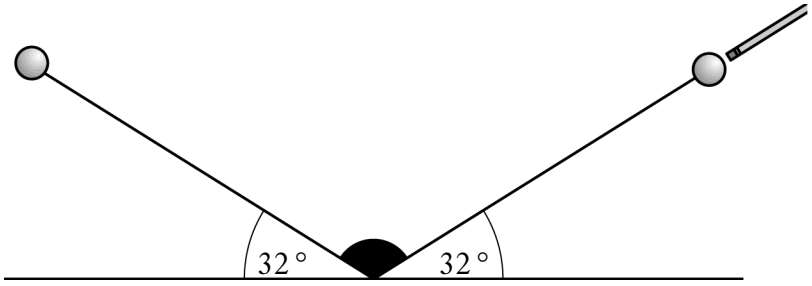
LI 2500/402 6/42170

	Marks	KU	RE

1. A ball hits the edge of a snooker table at an angle of 32° and rebounds from the edge at the **same** angle.



Calculate the size of the shaded angle.

WORKING	
ANSWER	°

2

	Marks	KU	RE

2. Mrs Wong is choosing a new car.

The *Colour*	can be	**Black**	or	**Red**
The *Style*	can be	**Saloon**	or	**Hatchback**
The *Engine Type*	can be	**Petrol**	or	**Diesel**

The table below shows one possible combination.

Colour	*Style*	*Engine Type*
Black	**Hatchback**	**Diesel**

Complete the table to show five other possible combinations. **3**

	Marks	KU	RE

3. The final scores in the Masters Golf Championship are shown below.

Howard Barclay	−1
Alan Palmer	+2
Ben Logan	−3
Scott Adam	+5
Norman Greig	−2

The player with the **lowest** score wins the championship.

Who won?

ANSWER		**1**		

Marks | KU | RE

4. Here is part of a train timetable.

	Train 1	**Train 2**	**Train 3**
Lanark	09 52	10 22	10 52
Carluke	10 02	10 32	11 02
Wishaw	10 08	10 38	11 08
Motherwell	10 20	10 50	11 20
Glasgow	10 55	11 20	11 55

(*a*) Amanda takes the 09 52 train from Lanark to Glasgow.
When will she arrive in Glasgow?

ANSWER		**1**

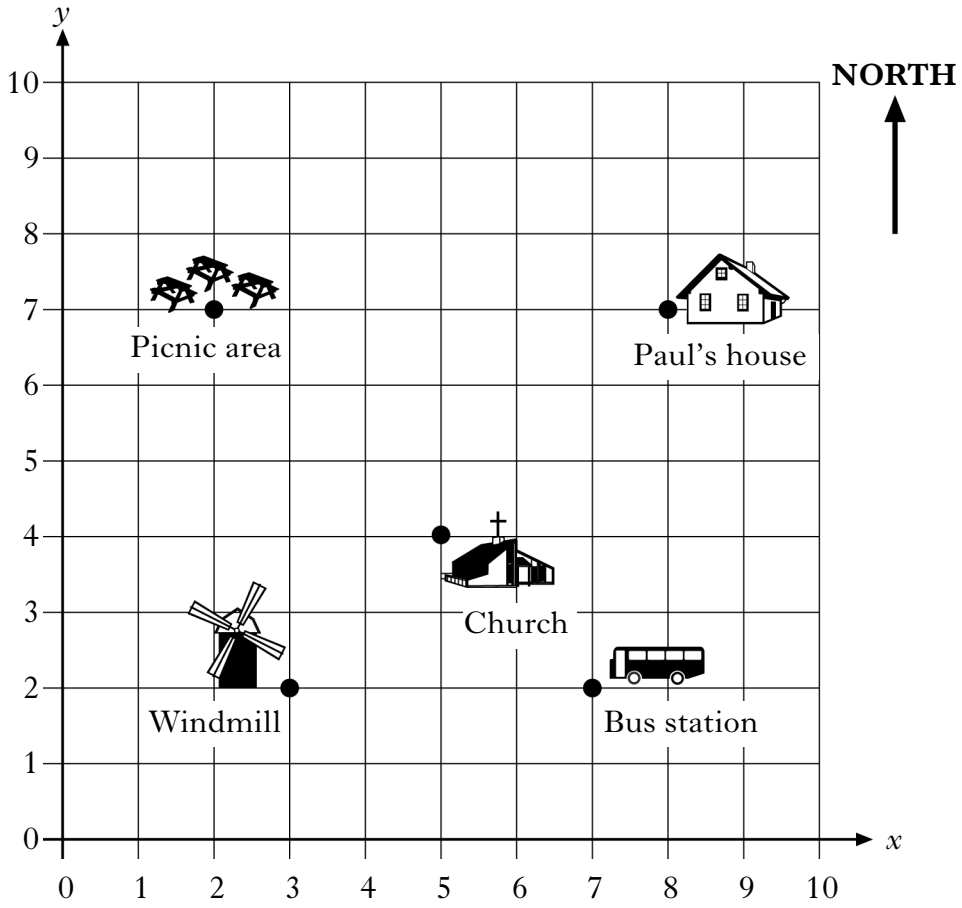
(*b*) Amanda's friend Lewis boards a later train at Wishaw.
This train arrives in Glasgow at 11 55.
How long does his journey from Wishaw to Glasgow take?

WORKING	
ANSWER	minutes **3**

	Marks	KU	RE

5. The plan below shows some landmarks near Paul's house.

The church is at position (5,4).



(*a*) What is at position (2,7)?

ANSWER		**1**		

(*b*) Write down the coordinates of the windmill.

ANSWER	(,)	**1**		

(*c*) Paul's aunt has a farm at position (1,4).

Mark a cross (✘) on the diagram to show the position of the farm. **1**

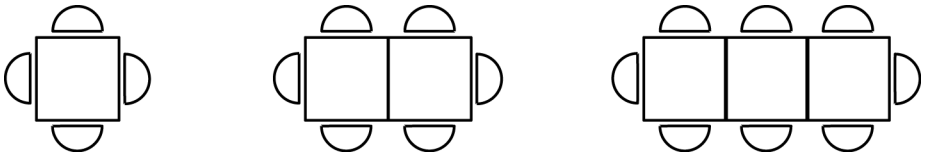
(*d*) Paul walks from his house to the church.

In which direction does Paul walk?

ANSWER		**1**		

Marks | KU | RE

6. In a restaurant, tables and chairs are set out as shown below.



1 table 2 tables 3 tables

(*a*) Complete this table.

Number of tables	1	2	3	4	5	6		13
Number of chairs	4	6						

WORKING

4

(*b*) Write down a rule for finding the number of chairs if you know the number of tables.

RULE

2

	Marks	KU	RE
7. Here is Rachel Brown's payslip.			

Name of Employee: RACHEL BROWN				
Payments	**Basic pay** £180·00	**Overtime** £28·00	**Bonus** £20·00	**A** **Gross Pay** £ ·
Deductions	**National Insurance** £14·50	**Income Tax** £36·00	**Union Dues** £2·00	**B** **Total Deductions** £ ·
				C **Net Pay** £ ·

Complete Rachel's payslip by filling in boxes **A**, **B** and **C**.

WORKING

	3		

	Marks	KU	RE

8. A double-glazing firm pays its employees a bonus each month based on their sales.

The table below shows how the bonus is calculated.

Sales	**Bonus**
Less than £10 000	£0
From £10 000 to £20 000	6% of sales
More than £20 000	12% of sales

(*a*) One month John sells £5000 worth of double glazing.

What is his bonus?

ANSWER	£	**1**		

(*b*) The same month Martha sells £16 000 worth of double glazing.

Calculate her bonus.

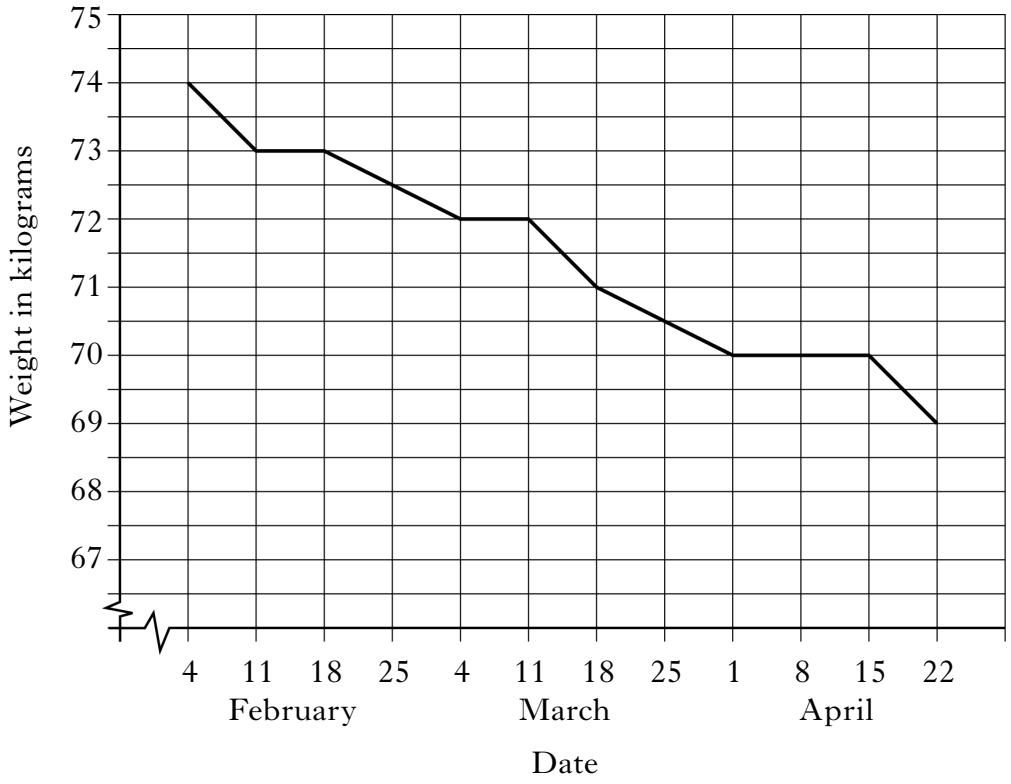
WORKING				
ANSWER	£	**3**		

	Marks	KU	RE

9. Scott goes on a sponsored diet to raise money for charity.

He starts the diet on 4 February and finishes on 22 April.

He is weighed each week during this time and the results are shown on a line graph.



(*a*) What was Scott's weight on 4 February?

ANSWER	kilograms	**1**		

(*b*) On what date did Scott weigh 72·5 kilograms?

ANSWER		**1**		

	Marks	KU	RE

9. (continued)

(*c*) Scott is sponsored £30 for every kilogram of weight lost between 4 February and 22 April.

How much money did he raise for charity?

WORKING	
ANSWER	£

4

	Marks	KU	RE

10. The marks of a group of pupils in their French test are shown in the frequency table below.

Mark	Frequency
12	4
13	6
14	9
15	11
16	19
17	8
18	3

Which mark is the mode?

ANSWER		**1**		

Marks | KU | RE

11.

ATLETICO LEISURE CENTRE	
Activity	**Ticket Price**
Aquatrim	£3·20
Swim	£4·65
Aerobics	£3·25
Gym	£4·30
Sauna	£4·15

(*a*) Ian buys a ticket for the gym.

How much does this cost him?

ANSWER	£

1

(*b*) Atletico Leisure Centre offers a special monthly ticket costing £25.

This special ticket allows you to use the activities as often as you wish for one month.

Janet buys a special monthly ticket.

She goes to Aerobics 10 times in that month.

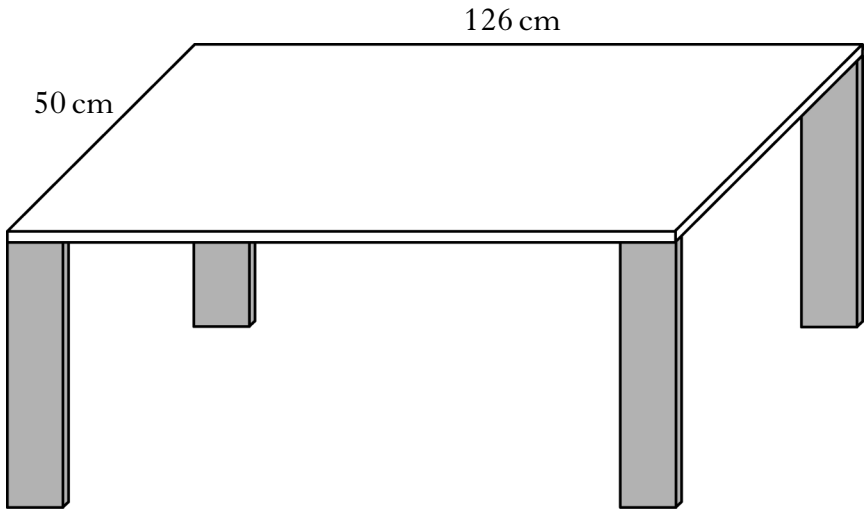
How much does Janet save?

WORKING	
ANSWER	£

3

	Marks	KU	RE

12. The top of Eve's table is a rectangle, 126 centimetres long and 50 centimetres broad.



(*a*) Calculate the area of the top of the table.

WORKING	
ANSWER	square centimetres

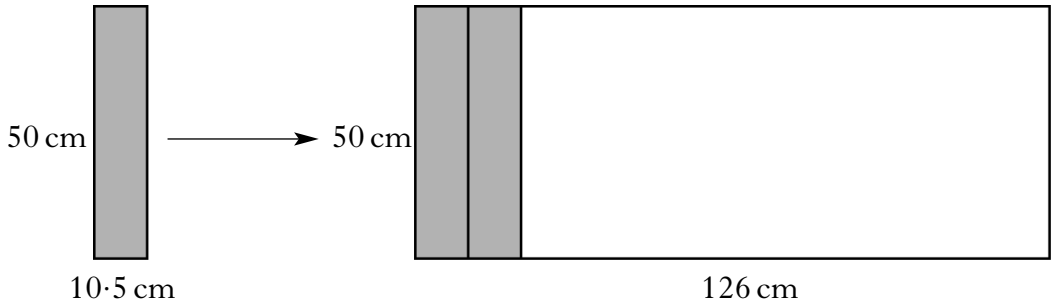
2

	Marks	KU	RE

12. (continued)

(*b*) Eve decides to fit wooden strips onto the table top as shown below.

Each strip measures 50 centimetres by 10·5 centimetres.



Calculate the number of wooden strips needed to cover the top of the table.

WORKING	
ANSWER	wooden strips

2

	Marks	KU	RE

13. The formula below is used to find the expected height, in centimetres, of children between the ages of two and twelve years.

Expected Height = 5 × Age in years + 80

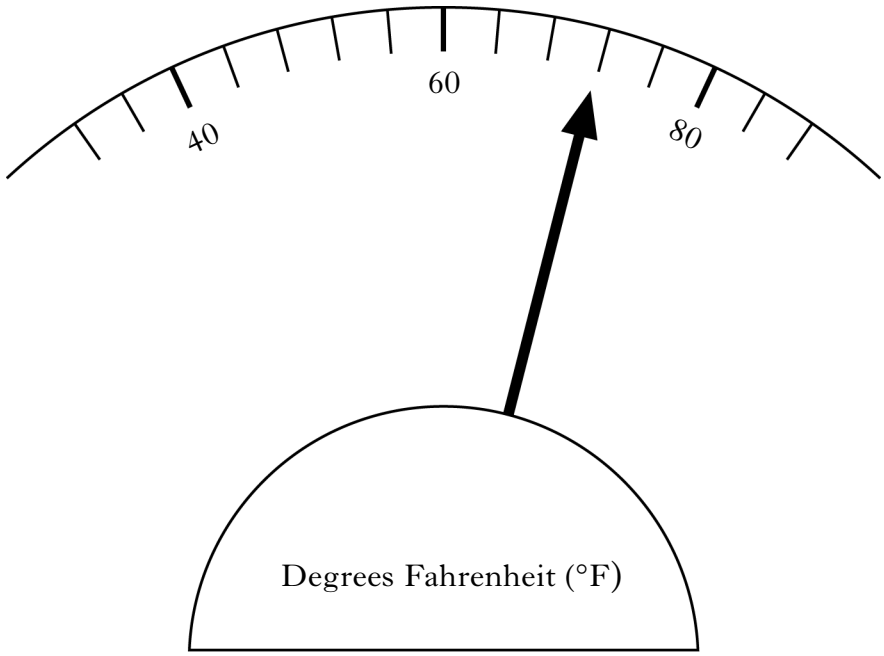
What age is a child whose expected height is 100 centimetres?

WORKING	
ANSWER	years old

3

	Marks	KU	RE

14. The thermometer below shows the temperature in degrees Fahrenheit.



What temperature does the thermometer show?

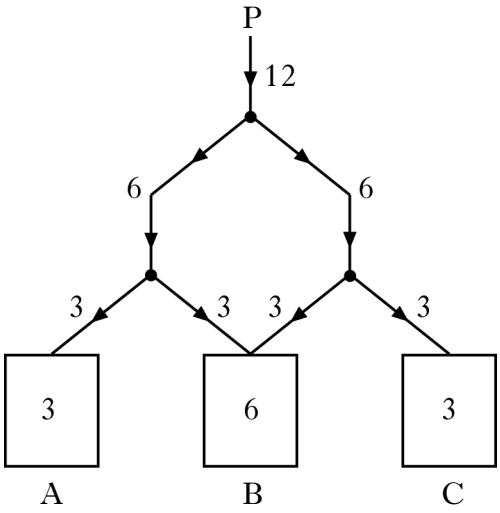
ANSWER	°F	**2**		

	Marks	KU	RE

15. When sheep are taken by a shepherd to a junction, half of the sheep take one path and half the other.

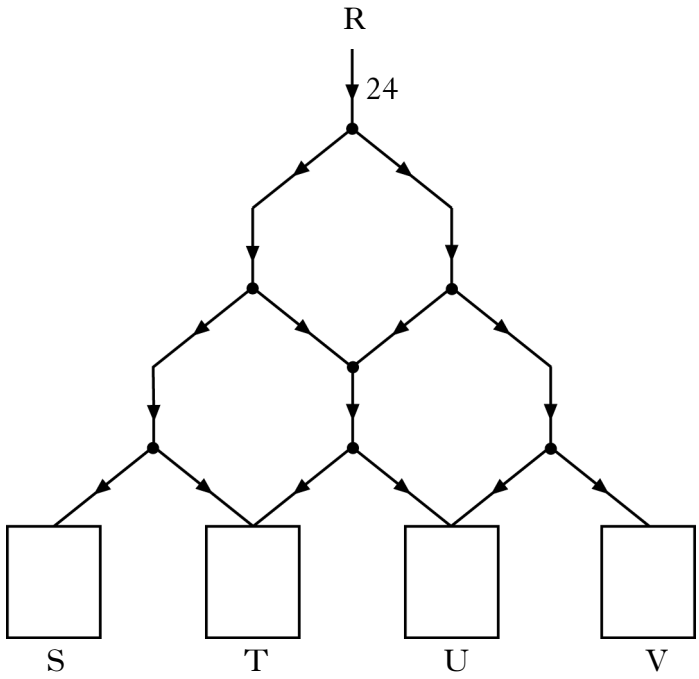
12 sheep start at point P.

The diagram below shows how many sheep then arrive in pens A, B and C.



24 sheep start at point R.

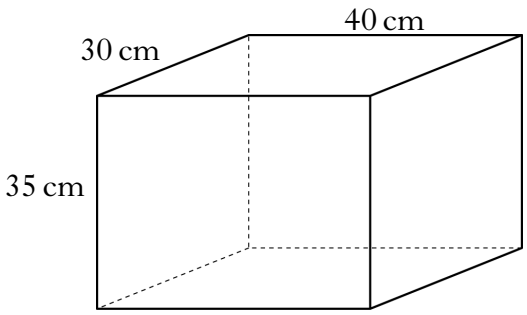
Show clearly **how** they separate at each junction **and** how many arrive in pens S, T, U and V.



3

	Marks	KU	RE

16. Ed makes a footstool. It is in the shape of a cuboid, 40 centimetres long, 30 centimetres broad and 35 centimetres high.

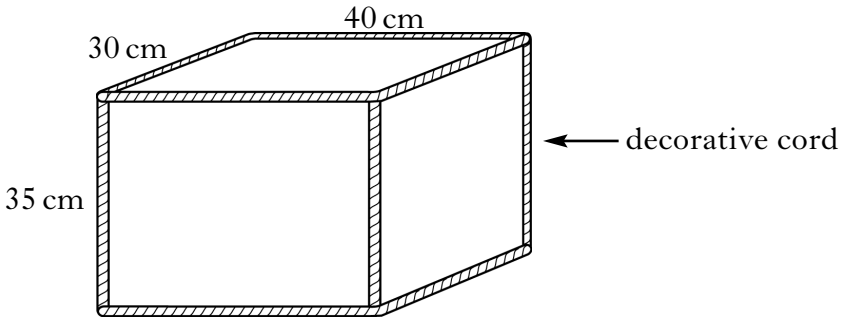


(*a*) Calculate the volume of Ed's footstool.

WORKING	
ANSWER	cubic centimetres

2

(*b*) Ed fills the footstool with foam and then puts a decorative cord around **all** the edges.



Calculate the **total length** of the decorative cord Ed needs to go around **all** the edges of the footstool.

WORKING	
ANSWER	centimetres

3

[*END OF QUESTION PAPER*]

ADDITIONAL SPACE FOR ANSWERS