FOR OFFICIAL USE

F

KU	RE

Total Marks

2500/401

NATIONAL QUALIFICATIONS 2005

FRIDAY, 6 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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LIB 2500/401 6/42770

	Marks	KU	RE

1. Work out the answers to the following.

(*a*) 3891 – 261

WORKING	
ANSWER	

1

(*b*) 5·12 × 6

WORKING	
ANSWER	

1

(*c*) $\frac{1}{3}$ of 114

WORKING	
ANSWER	

2

	Marks	KU	RE

2. Find 25% of £9·60.

WORKING	
ANSWER	£

2

3. Jim is running a marathon race.

(*a*) The race begins at 1740. Write this as a 12-hour time.

ANSWER	pm

1

(*b*) Jim finishes the race at 2015. How long does he take to run the race?

WORKING	
ANSWER	hours minutes

2

4. When a book is borrowed from the school library the return date is stamped on it. The return date is **two weeks** after the date on which the book is borrowed.

(*a*) Mary borrowed a book from the school library on 18 November.

What return date was stamped on the book?

WORKING	
ANSWER	Return date

2

A fine must be paid if a book is not returned on time.

The fine is 5 pence per day for every day **after** the return date.

(*b*) John borrowed a book from the school library on 7 January and returned it on 30 January.

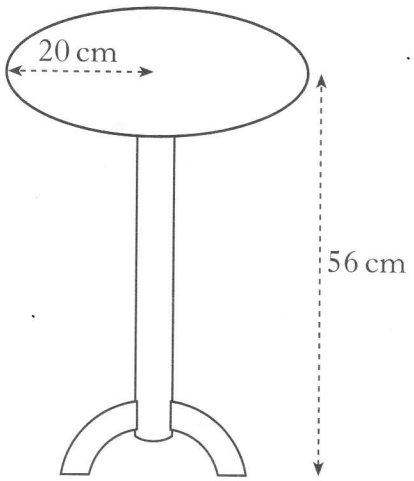
How much was his fine?

WORKING	
ANSWER	pence

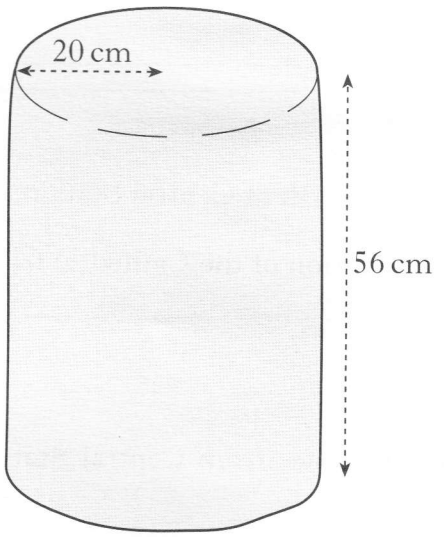
3

Marks | KU | RE

5. A table is 56 centimetres high and has a circular top of radius 20 centimetres.



A circular tablecloth just reaches the ground when it is laid on the table.



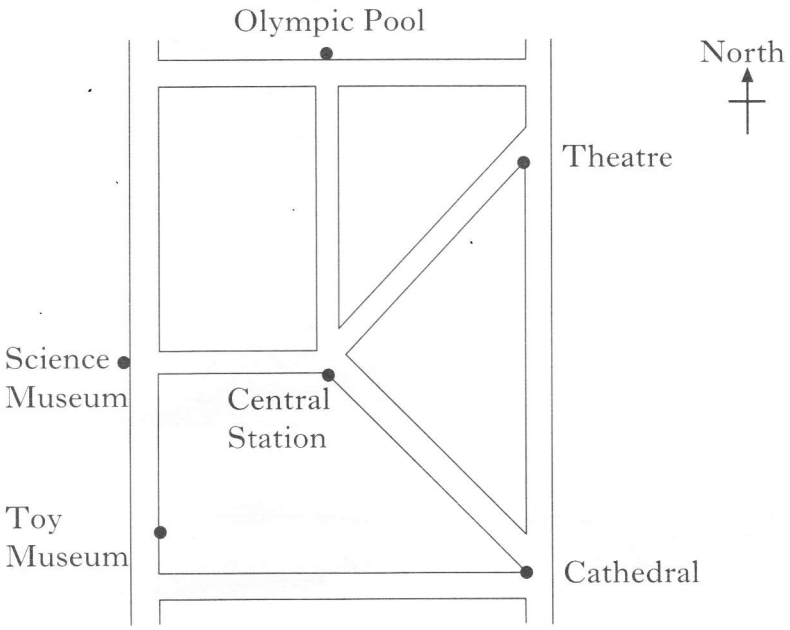
. What is the diameter of the tablecloth?

WORKING	
ANSWER	centimetres

3

	Marks	KU	RE

6. This map shows the positions of some tourist attractions in a city centre.



The Olympic Pool is north of Central Station.

(*a*) What is the direction of the Cathedral from Central Station?

ANSWER		1		

(*b*) Measure the distance from Central Station to the Cathedral **on the map**.

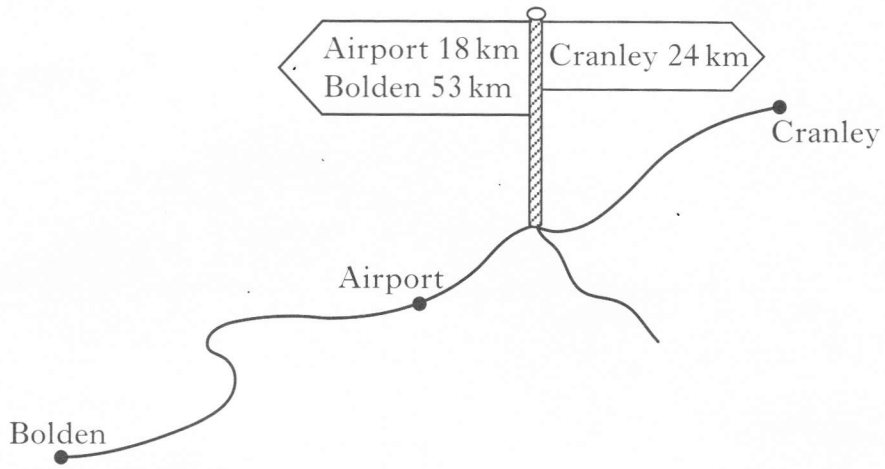
ANSWER	centimetres	1		

(*c*) The scale of the map is **1 centimetre represents 100 metres**.
Calculate the actual distance from Central Station to the Cathedral.

WORKING				
ANSWER	metres	2		

	Marks	KU	RE

7. This signpost shows the distances from a road junction to an airport and two towns, Bolden and Cranley.



Which town is nearer to the airport?

Give a reason for your answer.

WORKING	
ANSWER	is nearer to the airport
REASON	

3

[*END OF QUESTION PAPER*]

FOR OFFICIAL USE

F

KU	RE

Total Marks

2500/402

NATIONAL QUALIFICATIONS 2005

FRIDAY, 6 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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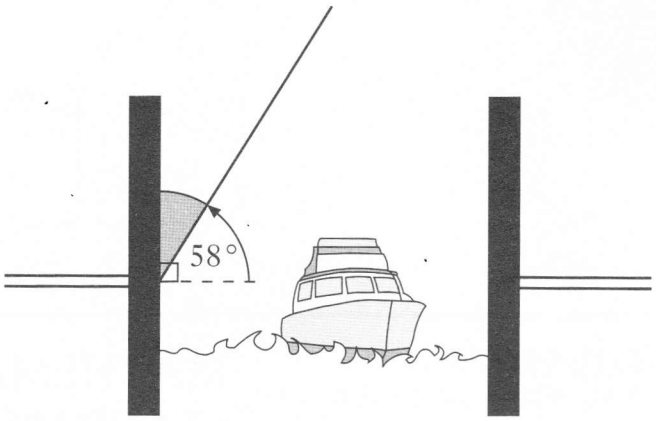
LIB 2500/402 6/42770

	Marks	KU	RE

1. A bridge is raised 58° to allow a ship to pass through.



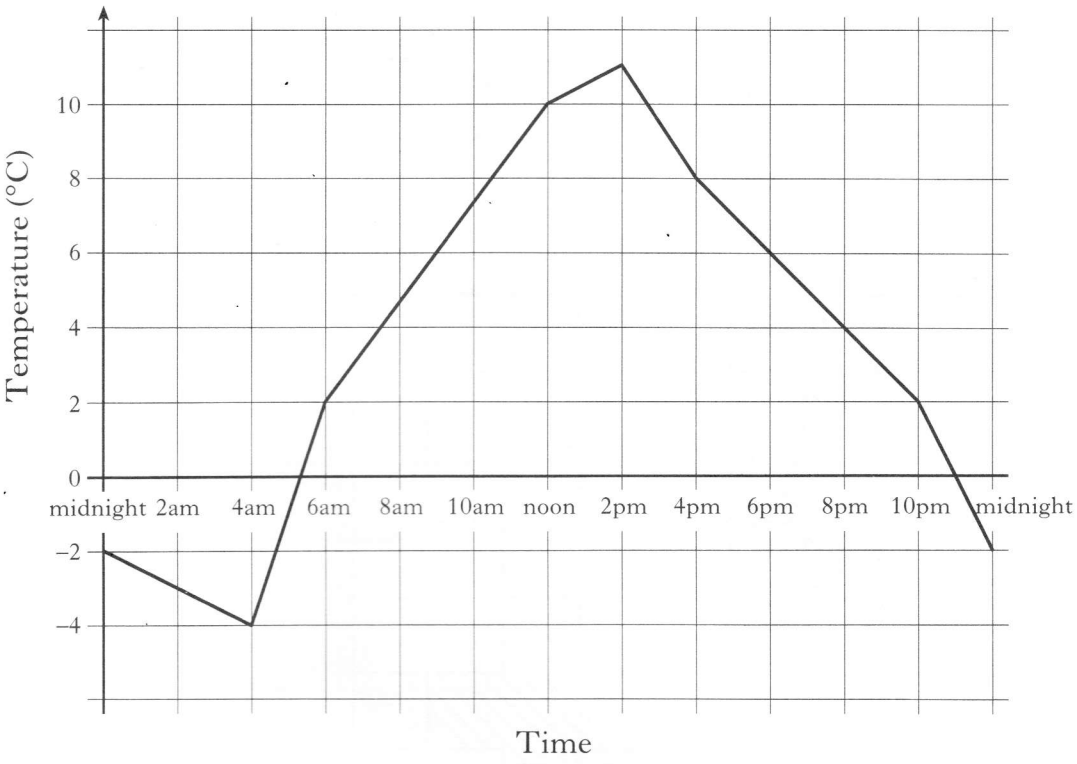
Calculate the size of the shaded angle.

WORKING	
ANSWER	°

2

	Marks	KU	RE

2. The graph below shows how the temperature on a mountain top changed during a day.



(*a*) What was the temperature at 2 am?

ANSWER	°C

1

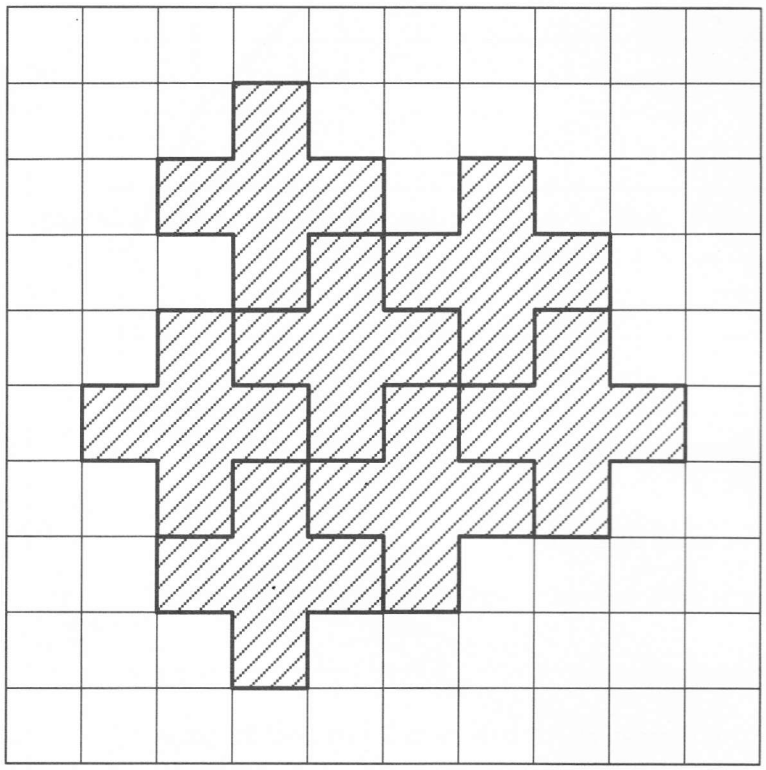
(*b*) What happened to the temperature between 2 pm and 10 pm?

ANSWER	

1

Marks KU RE

3. The pattern below is made with tiles like the one shown here.

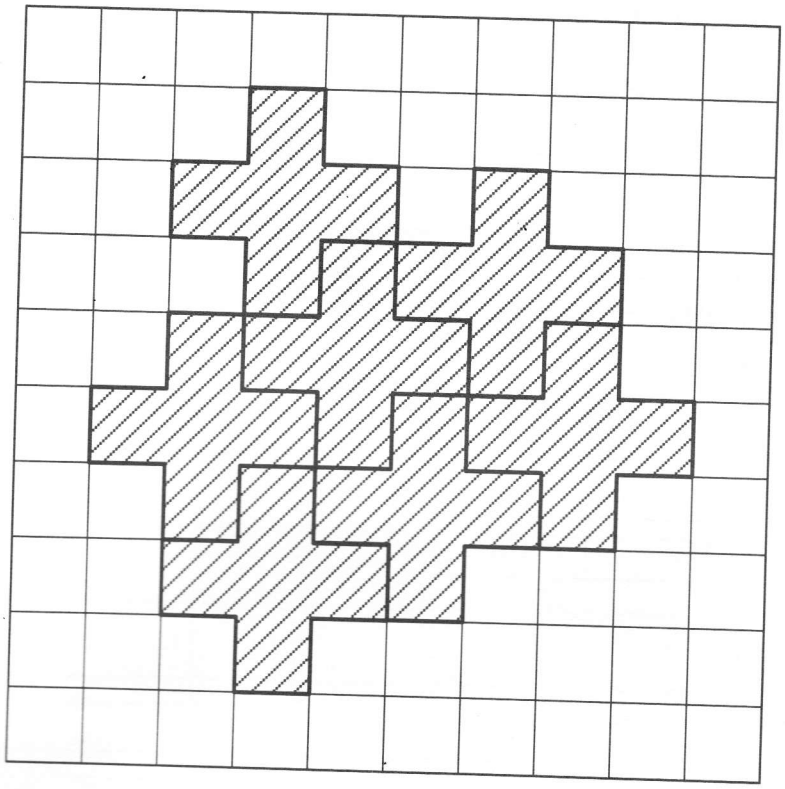


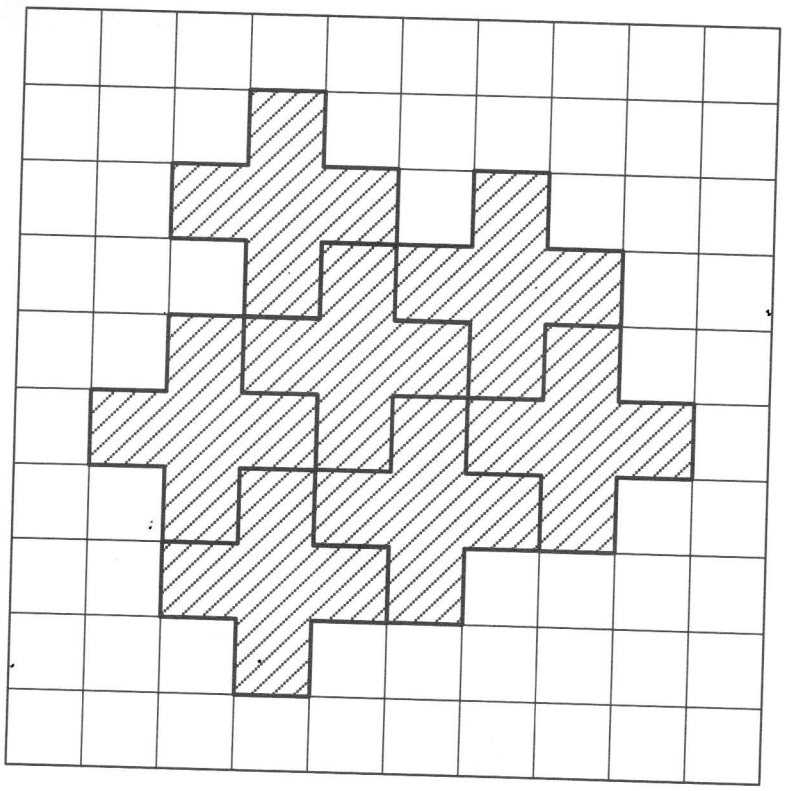
Draw three more tiles to continue the pattern. 3

YOU MAY USE THE EXTRA DIAGRAMS ON THE OPPOSITE PAGE FOR WORKING IF YOU WISH.

3. **(continued)**

Marks | KU | RE





Marks | KU | RE

4. Karen lives on a farm. The table below shows how many eggs were laid by the hens on the farm one week.

Day	Eggs
Monday	24
Tuesday	26
Wednesday	20
Thursday	21
Friday	24
Saturday	22
Sunday	24
TOTAL	161

(*a*) Write down the mode.

ANSWER	eggs

1

(*b*) Calculate the mean number of eggs laid per day.

WORKING	
ANSWER	eggs

2

	Marks	KU	RE

5. Benny has a lock for his bicycle. The lock has a **three-figure** code.

The code uses the figures 2, 3, 4 or 5.
The three figures used always add up to 12.

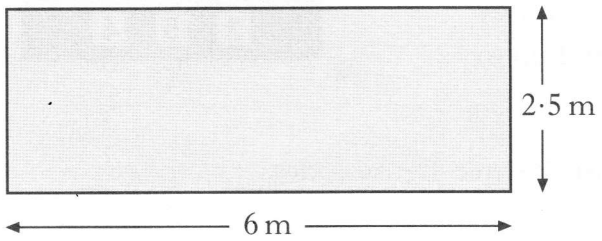
The table below shows two possible three-figure codes.

first figure	second figure	third figure
3	5	4
5	2	5

Complete the table to show five other possible three-figure codes. **3**

	Marks	KU	RE

6. This is a plan of Sunita's lawn. It is a rectangle.



(*a*) Calculate the area of the lawn.

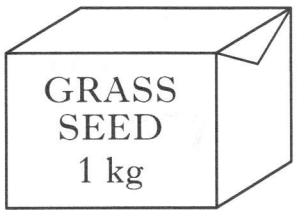
WORKING	
ANSWER	square metres

2

(*b*) Sunita has bought one kilogram of grass seed for her lawn.

50 grams of grass seed are needed for each square metre of lawn.

Has Sunita bought enough grass seed?



Give a reason for your answer.

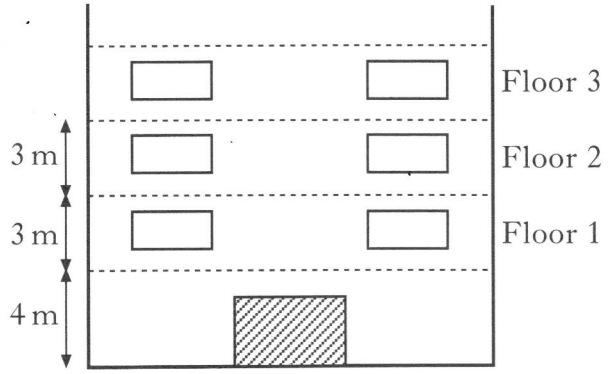
WORKING	
ANSWER (INCLUDING REASON)	

3

	Marks	KU	RE
7. Gerry has a part-time job. He was paid £23·60 for working 5 hours. How much would he be paid for working 8 hours at the same rate of pay?			
WORKING			
ANSWER £	3		

Marks | KU | RE

8. From ground level in a block of flats, a lift travels 4 metres upwards to reach the first floor. It then travels 3 metres upwards for each floor above that.



(*a*) Complete this table.

Floor number	1	2	3	4	5	6		11
Height of lift above ground level (metres)	4	7						

WORKING

4

(*b*) Write down a rule for finding the height of the lift above ground level if you know the floor number.

RULE

2

	Marks	KU	RE

9. Safety rules state that pupils on school trips must be supervised. One teacher can supervise no more than 12 pupils.

(*a*) How many teachers would be needed on a trip with 30 pupils?

WORKING	
ANSWER	teachers

2

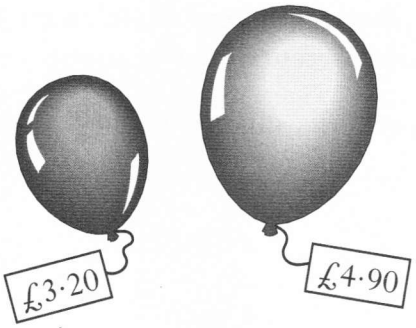
(*b*) The Mathematics department hires a coach with 50 seats for a trip.
To keep costs down, as many pupils as possible should go on the trip.
How many teachers and how many pupils can go on the trip?

WORKING	
ANSWER	teachers pupils

3

	Marks	KU	RE

10. A shop sells helium filled balloons.



It sells small balloons for £3·20 each and large ones for £4·90 each.

Joe buys 2 small balloons and some large balloons for a total cost of £26.

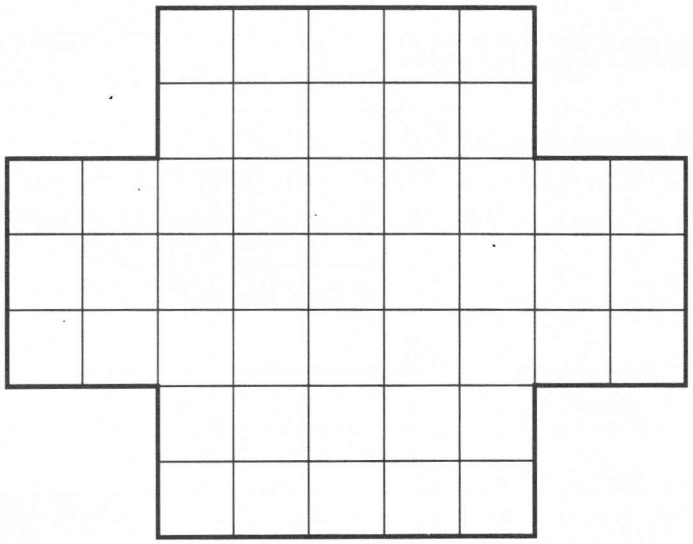
How many large balloons does Joe buy?

WORKING	
ANSWER	large balloons

4

	Marks	KU	RE

11. The diagram below shows the net of a cuboid with no lid.



(*a*) Write down the length, breadth and height of the cuboid made from this net.

ANSWER		
	Length =	centimetres
	Breadth =	centimetres
	Height =	centimetres

3

(*b*) Calculate the volume of the cuboid in part (*a*).

WORKING	
ANSWER	cubic centimetres

2

	Marks	KU	RE

12. Complete this electricity bill.

NORTHERN ELECTRIC

950 units at 6p per unit	=	£ .
VAT at 5%	=	£ .
TOTAL	=	£ .

WORKING

5

	Marks	KU	RE

13. A bank uses this rule to work out the price (in pounds) that its customers can afford to pay for a house.

PRICE = (3·5 × ANNUAL SALARY) + DEPOSIT

(*a*) Alison has an annual salary of £23 000 and a deposit of £5000.

Calculate the price that she can afford to pay for a house.

WORKING	
ANSWER	£

2

(*b*) Emma wants to buy a house priced at £82 500.

Her annual salary is £21 400.

How much of a deposit will she need?

WORKING	
ANSWER	£

3

	Marks	KU	RE

14. This table shows the distance Lucy's car can travel on 1 gallon of petrol at two different speeds.

Speed	*Distance travelled on 1 gallon of petrol*
55 miles per hour	50 miles
70 miles per hour	40 miles

(*a*) What distance will Lucy's car travel at a speed of 70 miles per hour on 10 gallons of petrol?

WORKING	
ANSWER	miles

2

(*b*) How much further would Lucy's car travel on 10 gallons of petrol if she drove at a speed of 55 miles per hour instead of 70 miles per hour?

WORKING	
ANSWER	miles

3

[END OF QUESTION PAPER]