

**NON-CALCULATOR**

KU	RE
1	
1	
1	
2	
2	
	1
	2
	2
	2

1. Carry out the following calculations:

a.  $209.3 - 175.48$

b.  $56.7 \times 90$

c.  $324.1 \div 7$

d.  $\frac{3}{4}$  of 56 cm

2. When an aircraft leaves Prestwick airport the outside temperature is 12° Celsius.

The aircraft climbs to 10 000 metres and the outside temperature is -50° Celsius.



Find the difference between these temperatures.

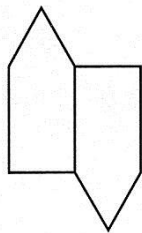
3. Sandra is working on the design for a bracelet.

She is using matches to make each shape.

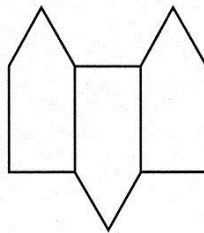
**Shape 1**



**Shape 2**



**Shape 3**



**Shape 4**

a) Draw shape 4.

b) Complete the following table.

Shape number ( <i>s</i> )	1	2	3	4	5	6		13
Number of matches ( <i>m</i> )	5	9			21			

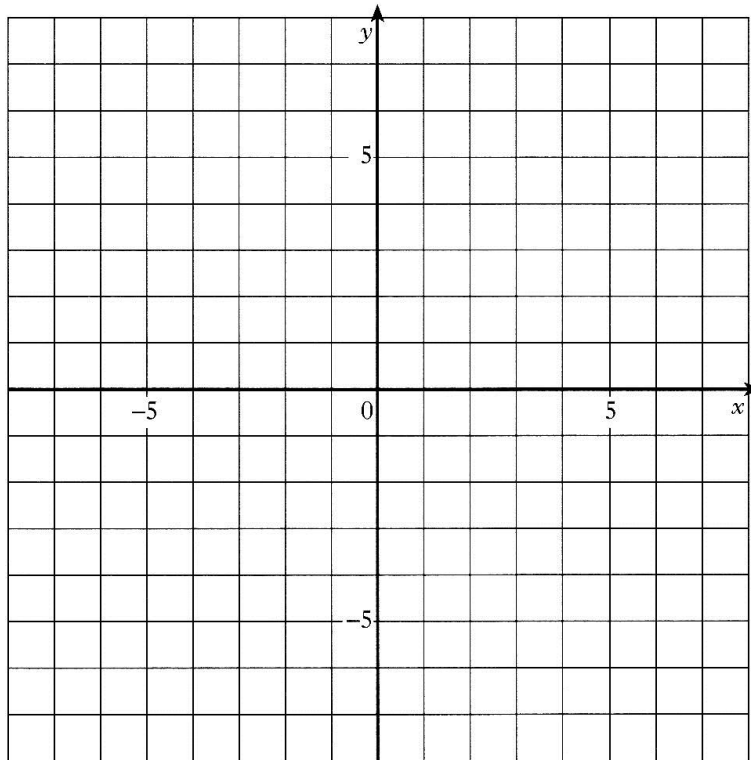
c) Find a formula for calculating the number of matches (*m*), when you know the shape number, (*s*).

d) Which shape number uses 61 matches ?

**You must show your working.**

4. A ship is transporting 2800 cars.  
Each car is worth £20 000.
- a) What is the total value of all the cars ?
  - b) Write the total value in scientific notation.

5. On the grid below plot the points A(7, 5), B(5, -1) and C(-1, -3).



- b) Plot a fourth point D so that ABCD is a rhombus.
- c) Reflect rhombus ABCD in the **y-axis**.

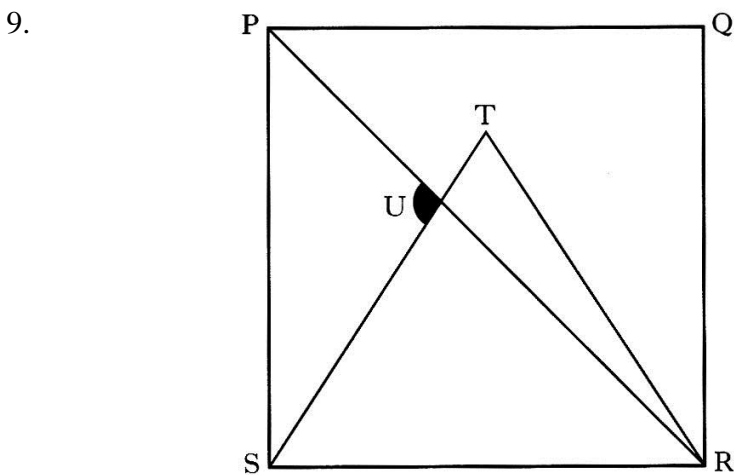
6. The table below can be used to convert tyre pressures from pounds per square inch (lb/sq in) to kilograms per square centimetre (kg/sq cm).

<b>lb/sq in</b>	20	22	24	26	28	30	32	34
<b>kg/sq cm</b>	1.41	1.55	1.69	1.83	1.97	2.11	2.25	2.39

Convert **29 lb/sq in** to **kg/sq cm**.

KU	RE
1	
1	
2	
1	
	2
2	

7. a) Graham goes into a shop and buys a bottle of water and a cheese roll for £1.38.  
In the same shop Alan pays £1.77 for 2 bottles of water and a cheese roll.  
How much does a bottle of water cost ?
- b) Craig goes into the shop and buys 4 bottles of water and 3 cheese rolls.  
How much will this cost ?
8. John buys a football programme for £1.60 and sells it for £2.00.  
Calculate his percentage profit.



In the diagram above

- PQRS is a square
- PR is a diagonal of the square
- Triangle RST is equilateral.

Calculate the size of the shaded angle SUP

END OF QUESTION PAPER

KU	RE
	1
	3
3	
	3
17	16