

FOR OFFICIAL USE

G

NATIONAL QUALIFICATIONS 2013

MATHEMATICS
STANDARD GRADE

General Level
Paper 1
Non-calculator

	KU	RE
Paper 1		
Paper 2		
Total		



2500/29/01

FRIDAY, 3 MAY 10.40 AM - 11.15 AM

Fill in these boxes and read what is printed below.

Full name of centre

Town

Forename(s)

Surname

Number of seat

Date of birth

Day

Month

Year

Scottish candidate number

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.

5 Before leaving the examination room you must give this book to the Invigilator. If you do not, you may lose all the marks for this paper.

Use **blue** or **black ink**. Pencil may be used for graphs and diagrams only.

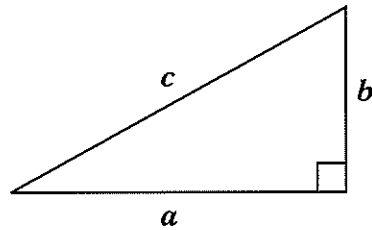
SQA



FORMULAE LIST

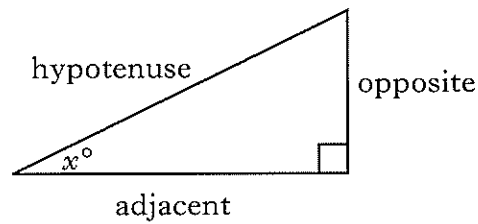
Circumference of a circle:	$C = \pi d$
Area of a circle:	$A = \pi r^2$
Curved surface area of a cylinder:	$A = 2\pi r h$
Volume of a cylinder:	$V = \pi r^2 h$
Volume of a triangular prism:	$V = Ah$

Theorem of Pythagoras:



$$a^2 + b^2 = c^2$$

Trigonometric ratios
in a right angled
triangle:

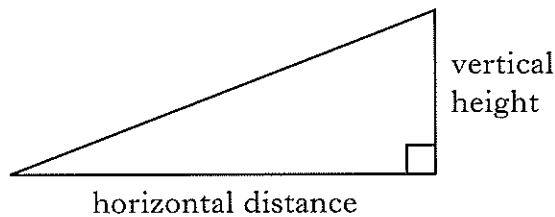


$$\tan x^\circ = \frac{\text{opposite}}{\text{adjacent}}$$

$$\sin x^\circ = \frac{\text{opposite}}{\text{hypotenuse}}$$

$$\cos x^\circ = \frac{\text{adjacent}}{\text{hypotenuse}}$$

Gradient:



$$\text{Gradient} = \frac{\text{vertical height}}{\text{horizontal distance}}$$



* 2 5 0 0 2 9 0 1 0 2 *

1. Carry out the following calculations.

(a) $306.5 - 214.78$

$$\begin{array}{r} 27 \overset{5}{\cancel{0}} \overset{14}{\cancel{6}} \overset{1}{\cancel{0}} \\ - 214.78 \\ \hline 91.72 \end{array} \qquad \underline{\underline{91.72}}$$

(b) 9.53×300

$$\begin{array}{r} 953 \\ \times 3 \\ \hline 2859 \end{array} \qquad \underline{\underline{2859}}$$

(c) $2.58 \div 4$

$$\begin{array}{r} 0.645 \\ 4 \overline{) 2.580} \\ \underline{4} \\ \underline{18} \\ \underline{20} \\ \underline{20} \\ 0 \end{array} \qquad \underline{\underline{0.645}}$$

(d) 70% of 26

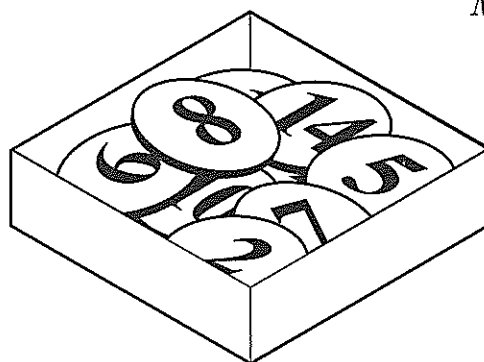
$$\begin{aligned} 26 \div 10 \times 7 &= 2.6 \times 7 \\ &= 18.2 \end{aligned} \qquad \begin{array}{r} 2.6 \\ \times 7 \\ \hline 18.2 \end{array} \qquad \underline{\underline{18.2}}$$

Marks	KU	RE
1		
1		
1		
2		



2. A box contains counters numbered from 1 to 14.

A counter is chosen at random.



What is the probability that this counter has a number greater than 9?

$$P(>9) = \frac{5}{14}$$

Marks

	KU	RE
2		

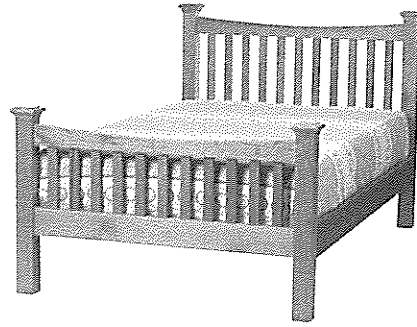


* 2 5 0 0 2 9 0 1 0 4 *

4. A bed shop is having a sale.

Marks

**ALL BEDS
ONE THIRD OFF NORMAL PRICE**



The normal price of a bed is £768.

Find the sale price of this bed.

$$\begin{array}{r} 256 \\ 3 \overline{) 768} \end{array}$$

$$\begin{array}{r} 768 \\ - 256 \\ \hline 512 \end{array}$$

or

$$\begin{array}{r} 256 \\ \times 2 \\ \hline 512 \end{array}$$

£512

3

5. A new tram system is operating in Inverness.

The trams run between the four stations shown.

All trams have the same journey times.



Part of the timetable is shown below.

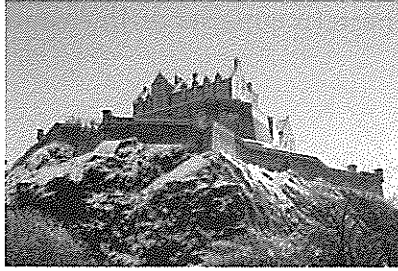
Station	Tram 1	Tram 2
Crown	0956	1002
Union	1011	1017
Telford	1018	1024
Ferry	1038	1044

Complete this timetable.

3



6. (a) At 6.00 am the temperature in Edinburgh was -13°C .
At 10.00 am the temperature was -5°C .



Marks	KU	RE
1		
1		

By how many degrees had the temperature risen?

8°C

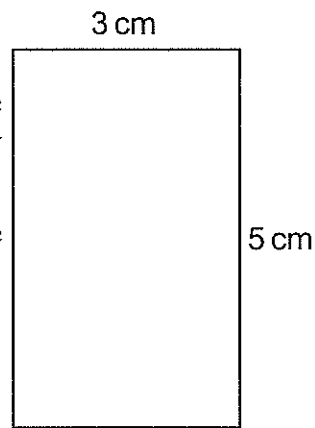
- (b) At 3.00 pm the temperature had risen a further 7 degrees.
What was the temperature at 3.00 pm?

2°C



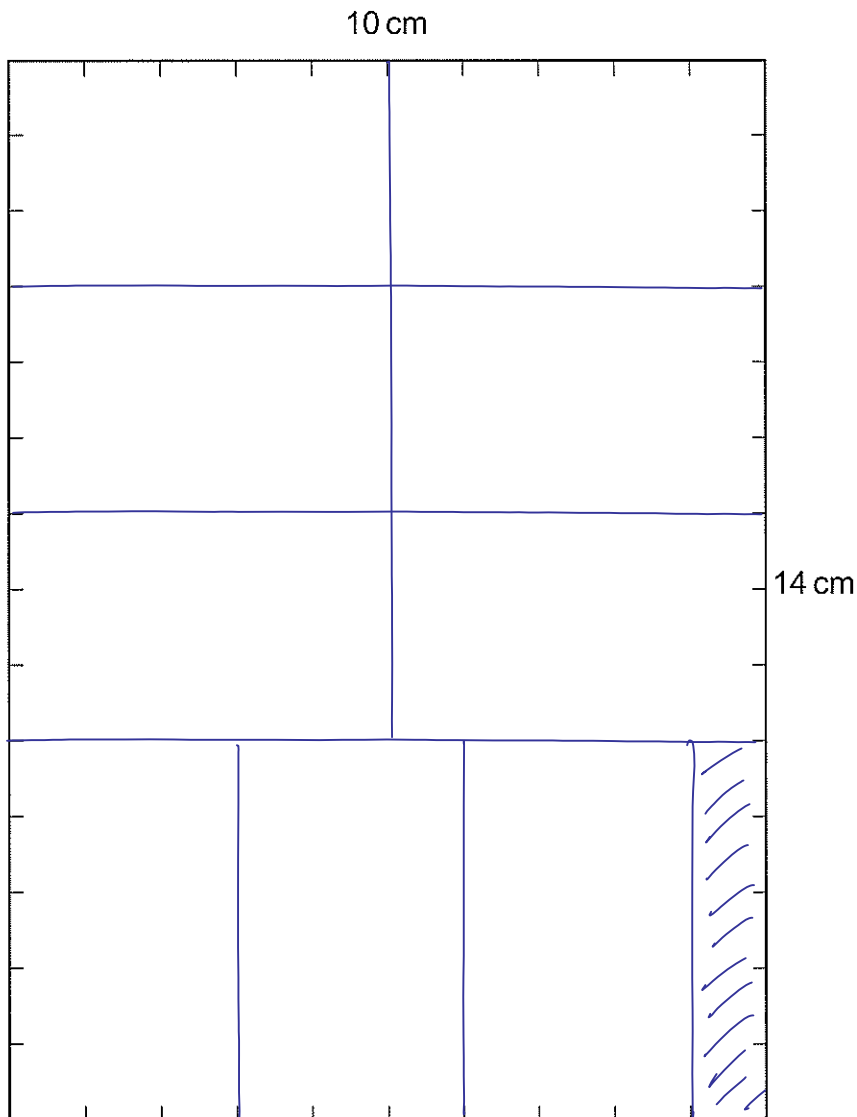
* 2 5 0 0 2 9 0 1 0 7 *

10. This rectangle measures 5 cm by 3 cm.



Rectangles measuring 5 cm by 3 cm are to be fitted, **without overlapping**, on the 14 cm by 10 cm box below.

Draw these rectangles on the box to show the **maximum** number which can be fitted.



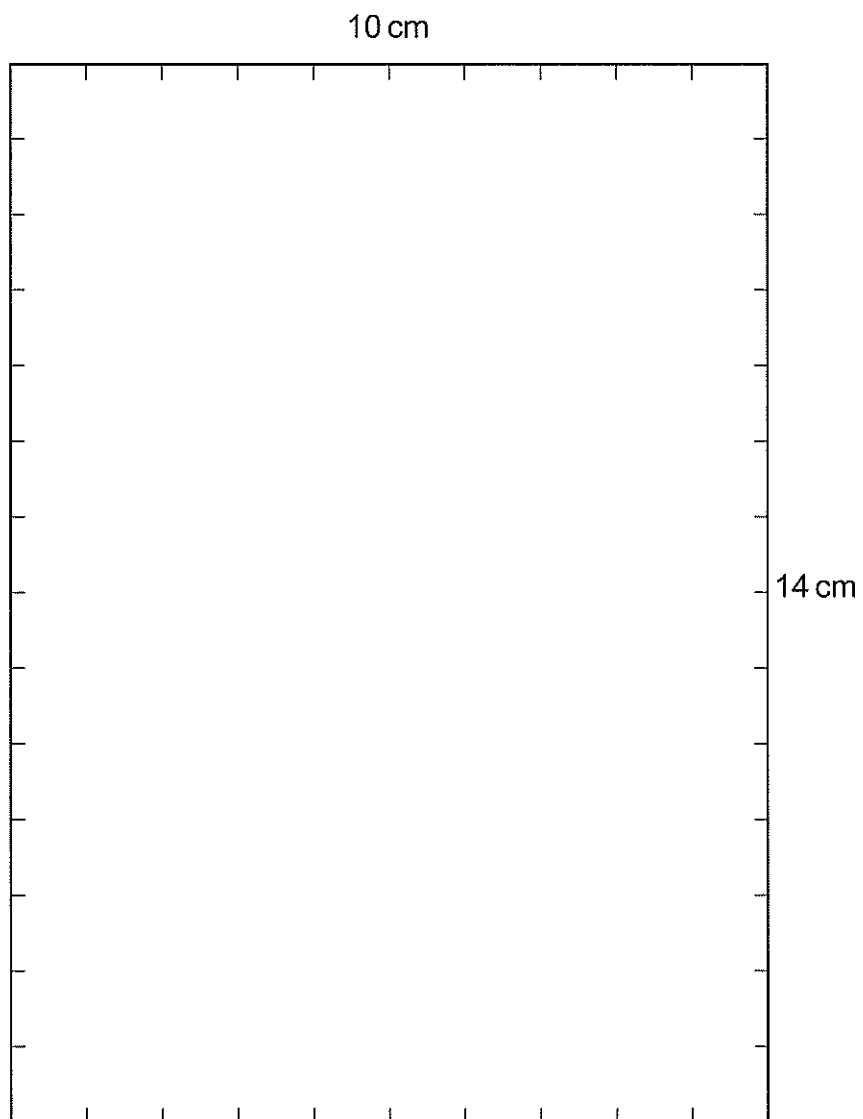
Marks	KU	RE
	3	

Spare boxes can be found on *Pages twelve and thirteen*.

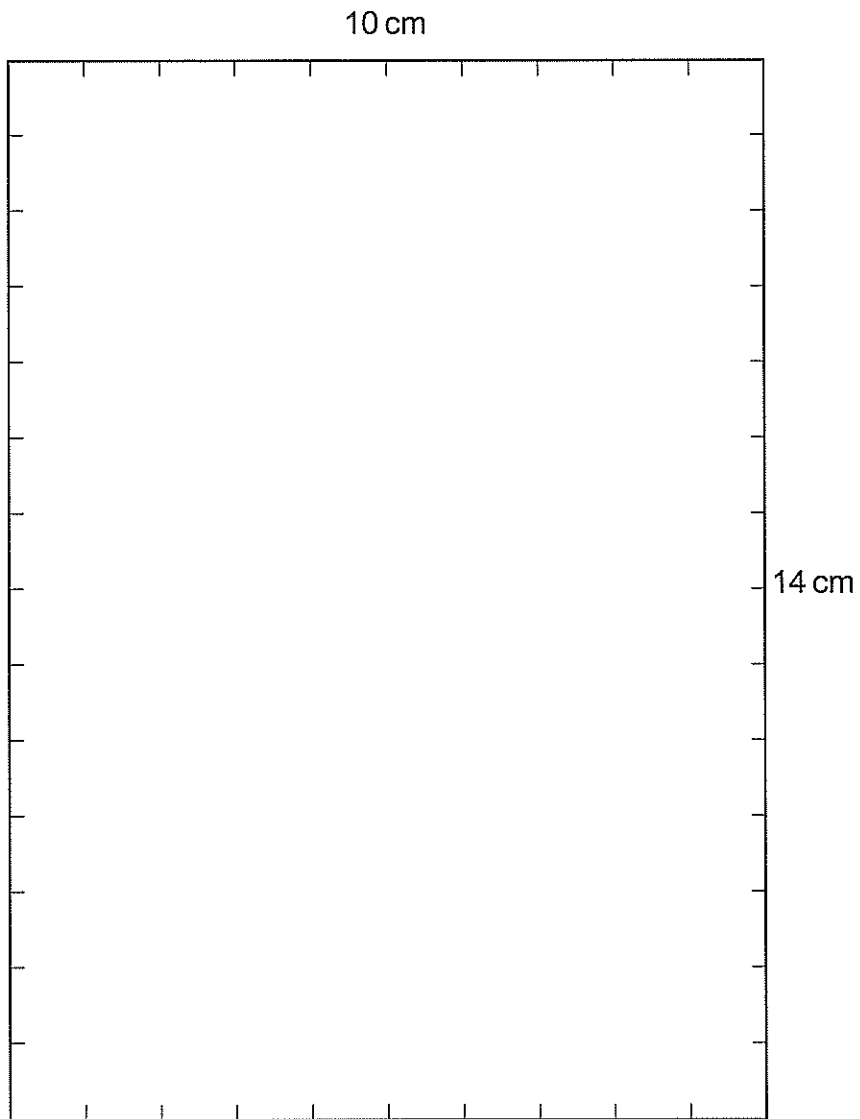
[END OF QUESTION PAPER]



Spare box for Question 10



Spare box for Question 10



ADDITIONAL SPACE FOR ANSWERS

Marks

KU	RE



ADDITIONAL SPACE FOR ANSWERS

<i>Marks</i>	KU	RE



* 2 5 0 0 2 9 0 1 1 5 *

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DO NOT WRITE ON THIS PAGE

