

FOR OFFICIAL USE

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	KU	RE
Total marks		

2500/404

NATIONAL
QUALIFICATIONS
2009

WEDNESDAY, 6 MAY
11.35 AM – 12.30 PM

MATHEMATICS
STANDARD GRADE
General 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

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Scottish candidate number

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Number of seat

- You may use a calculator.**
- Answer as many questions as you can.
- 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.
- Full credit will be given only where the solution contains appropriate working.
- 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.



FORMULAE LIST

Circumference of a circle: $C = \pi d$

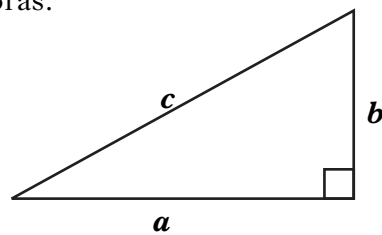
Area of a circle: $A = \pi r^2$

Curved surface area of a cylinder: $A = 2\pi r h$

Volume of a cylinder: $V = \pi r^2 h$

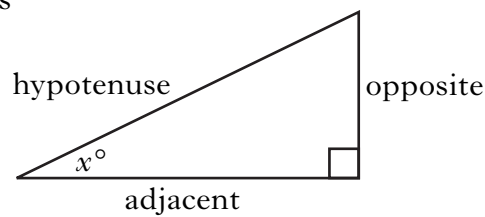
Volume of a triangular prism: $V = Ah$

Theorem of Pythagoras:



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

Trigonometric ratios
in a right angled
triangle:

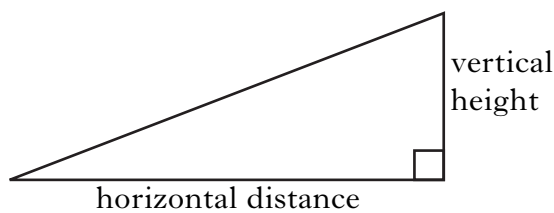


$$\tan x^\circ = \frac{\text{opposite}}{\text{adjacent}}$$

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

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

Gradient:



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

4. John is going to see a movie.
The movie has an evening and a late night showing.

	Evening showing	Late night showing
Start time	1750	
Finish time	2005	0110



Marks

	KU	RE
1		
2		

(a) How long does the movie last?

(b) When does the late night showing start?

Marks

6. David is trying to decide which channel mixes to buy for his TV system.

The cost of each is:

- Drama Mix £7
- Sport Mix £20
- Movies Mix £15
- Kids Mix £12
- Music Mix £10



He has decided to buy four different mixes.

One possible selection and its cost are shown in the table below.

- (a) Complete the table showing all the possible selections and the cost of each.

Selections				Cost
Drama	Sport	Movies	Music	£52

3

- (b) David can spend up to £55 for his selection.

Which selection can he **not** buy?

1

Marks

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9.

Pizza Perfection — free delivery				
	Deep Base		Thin Base	
	9-inch	12-inch	9-inch	12-inch
Margherita	£3.60	£5.00	£3.30	£4.60
Mushroom	£4.25	£5.80	£4.15	£5.50
Pepperoni	£5.00	£6.30	£4.90	£6.00
Vegetarian	£5.05	£6.35	£4.95	£6.05
Hot Spicy	£5.15	£6.45	£5.05	£6.15



Iona and her friends order some pizzas to be delivered.

They order a 9-inch Hot Spicy deep base, a 12-inch Margherita deep base and two 12-inch Vegetarian thin base.

Find the total cost of the order.

3

[Turn over

ADDITIONAL SPACE FOR ANSWERS

ADDITIONAL SPACE FOR ANSWERS

ADDITIONAL SPACE FOR ANSWERS

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