Bounds
Difficulty: Hard
Question Paper 1

Level	IGCSE
Subject	Maths (0580/0980)
Exam Board	CIE
Topic	Number
Sub-Topic	Bounds
Paper	Paper 2
Difficulty	Hard
Booklet	Question Paper 1

Time allowed: **37 minutes**

Score: **/29**

Percentage: **/100**

Grade Boundaries:

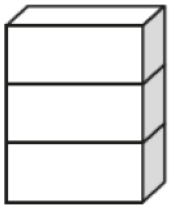
CIE IGCSE Maths (0580)

A*	A	B	C	D	E
>88%	76%	63%	51%	40%	30%

CIE IGCSE Maths (0980)

9	8	7	6	5	4	3
>94%	85%	77%	67%	57%	47%	35%

Question 1



NOT TO SCALE

The diagram shows three identical cuboids in a tower.
The height of one cuboid is 6.5 cm, correct to the nearest millimetre. [2]

Work out the upper bound of the height of the tower.

Question 2

The sides of a triangle are 5.2 cm, 6.3 cm and 9.4 cm, each correct to the nearest millimetre. [2]

Calculate the lower bound of the perimeter of the triangle.

Question 3

A rectangle has length 62 mm and width 47 mm, both correct to the nearest millimetre.
The area of this rectangle is A mm^2.

[3]

Complete the statement about the value of A.

Question 4

The length of a rectangle is 9.3 cm, correct to 1 decimal place.
Its width is 7.7 cm, correct to 1 decimal place.

Write down the lower bound and the upper bound for the area of the rectangle. [3]

Question 5

The sides of a square are 8 cm, correct to the nearest centimetre.

Calculate the upper bound for the area of the square.

[2]

Question 6

(a) $V = IR$

In an experiment I and R are both measured correct to 1 decimal place.

When $I = 4.0$ and $R = 2.7$, find the **lower** bound for V.

[2]

(b) $S = \frac{D}{T}$

In an experiment D and T are both measured correct to 2 significant figures.

When $D = 7.6$ and $T = 0.23$, find the **upper** bound for S.

[2]

Question 7

The volume of a cuboid is 878 cm^3, correct to the nearest cubic centimetre.
The length of the base of the cuboid is 7 cm, correct to the nearest centimetre.
The width of the base of the cuboid is 6cm, correct to the nearest centimetre.

[3]

Calculate the lower bound for the height of the cuboid.

Question 8

Rice is sold in 75 gram packs and 120 gram packs.
The masses of both packs are given correct to the nearest gram.

[2]

Calculate the lower bound for the difference in mass between the two packs.

Question 9

The mass of 1 cm^3 of copper is 8.5 grams, correct to 1 decimal place.

Complete the statement about the total mass, T grams, of 12 cm^3 of copper. [2]

Question 10

A rectangle has length 127.3 cm and width 86.5 cm, both correct to 1 decimal place.

Calculate the upper bound and the lower bound for the perimeter of the rectangle. [3]

Question 11

A circle has a radius of 8.5 cm correct to the nearest 0.1 cm.

The lower bound for the area of the circle is $p\pi \text{cm}^2$.
The upper bound for the area of the circle is $q\pi \text{cm}^2$.

Find the value of p and the value of q. [3]