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Practice Paper A
Paper 1

Name: _____

Class: _____

Teacher: _____

Date: _____

You may **NOT** use a calculator.

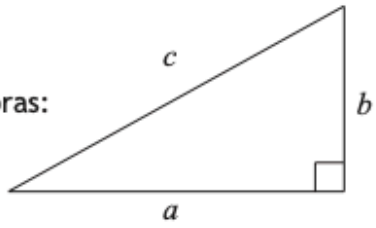
Full credit will be given only where the solution contains appropriate working.

FORMULAE LIST

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

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

Theorem of Pythagoras:



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

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

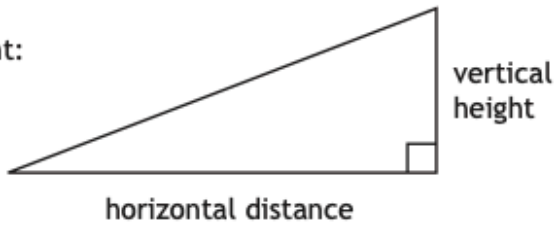
Volume of a prism: $V = Ah$

Volume of a cone: $V = \frac{1}{3}\pi r^2 h$

Volume of a sphere: $V = \frac{4}{3}\pi r^3$

Standard deviation: $s = \sqrt{\frac{\Sigma(x-\bar{x})^2}{n-1}} = \sqrt{\frac{\Sigma x^2 - (\Sigma x)^2/n}{n-1}}$, where n is the sample size.

Gradient:



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

All questions should be attempted

Marks

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1. There are three choices of starter at a wedding at Loch Lomond

$\frac{1}{7}$ of guests order soup

$\frac{4}{11}$ of guests ordered liver pate

$\frac{2}{7}$ ordered prawn cocktail

The rest ordered chicken skewers

What fraction of guests ordered chicken skewers? **3**

2. Sarah thinks that the answer to the following calculation is 81.2

$$30.4 - 3.5 \times 3 + 0.5$$

Is Sarah correct?
Justify your answer.

Do not write in this margin.

Marks

3. Jane bought 500 shares in a company at £3.60 per share
She sold them all for £5.50 per share.
She paid 5% commission of the total selling price.
Calculate her total profit.

4

4. Write all of the following from smallest to biggest

$$23\%,\ 0.227,\ \frac{2}{7},\ 0.26$$

Justify your answer **2**

Do not write in this margin.

Marks

5. Uzair works at a dental surgery.

He is paid £12.40 an hour as a standard wage, but gets paid **double** for every hour at the weekend. His shifts this week are written below.

Monday: 9am – 6pm
Tuesday: 9am to 6pm
Wednesday: 8am – 4pm
Friday: 1pm to 5pm
Saturday: 9am – noon

Calculate Uzairs wage for the week. **4**

6. Frank flies from Moscow to Tokyo.

The flight leaves Moscow at 10.20pm local time.
The flight is 3 hours and 15 mins long.
The plane arrives at 7.35am local time.

What is the time difference between Moscow and Tokyo? **3**

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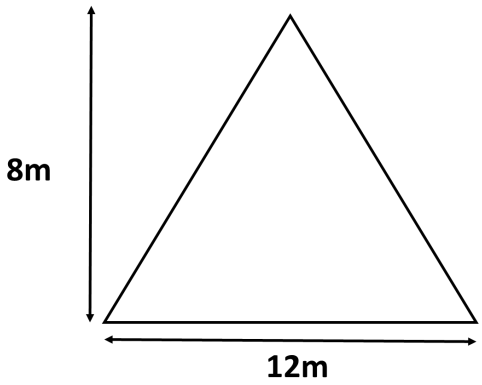
Marks

7. The sign for a new shop has an isosceles triangle on it.



a) Find the perimeter of the triangle **3**

LED lights go around the sign. It cost £2.50 for every meter.

b) How much does it cost to put LED lights around the entire triangle. **2**

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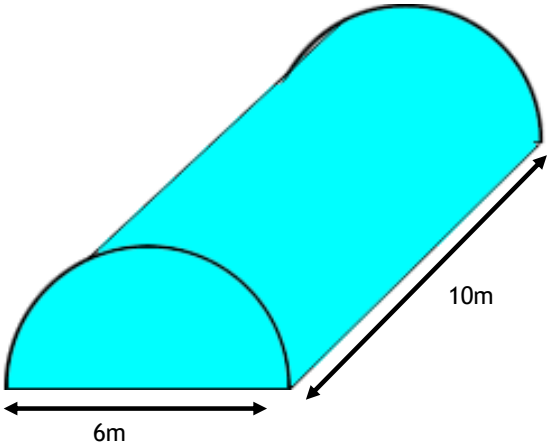
Marks

8. The dimensions of a cylindrical greenhouse at a garden centre are shown,



Calculate the volume of the greenhouse.
[Take π = 3.14] **3**

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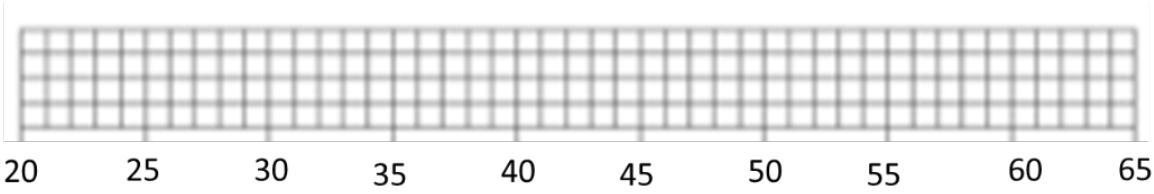
Marks

9. The amount of people viewing films from two cinemas is drawn on a stem and leaf diagram.

4-Sight		Cee-Cinema
9 1 0	2	0 3 4
5 5 3	3	1 2 2 6 9
8 7 7 6 4	4	3 4 5 7
8 5 3	5	2 3 6 9
3 1	6	1 2

4|5 = 45

a) Construct a box plot for people who went to *Cee-Cinema*. **3**



b) Seats in 4-sight sell for £8 each. What is the difference in profit between the lowest attended film and the highest attended film? **3**

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Marks

10. Pupils in a class were asked how they travel to school. The results were recorded in the table below.

Car	Bus	Train	Walk
13	6	5	8

If a pupil in the class was picked at random, what is the probability that one of them walked to school as a **percentage**? **3**

Do not write in this margin.

Marks

11. A chain of shops looks at their weekly profit in 10 stores across the Falkirk area.

It is expected that everyone's weekly profit will be with a range of £12,000 ±2500

The following is a list of the weekly profits.

13600	6600	14050	12800	13400
9100	11200	15600	12900	7800

a) State what **percentage** of the stores are **below** the expected weekly profit.

b) Find the median and the SIQR of the weekly profits.

The same chain of shops has 10 stores across the Edinburgh area. Their median profit was £11400 and the SIQR was £4000.

c) Make **two** comparisons with the Falkirk area shops and those in Edinburgh.

This is the end of the paper.