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Practice Paper B
Paper 1

Name: _____

Class: _____

Teacher: _____

Date: _____

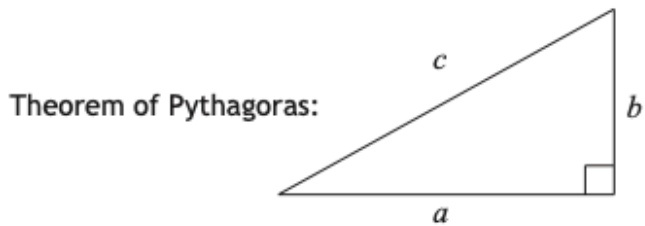
You may **NOT** use a calculator.

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: $A = \pi r^2$



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

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



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

All questions should be attempted

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Marks

1. Hilary works at a supermarket.

He is paid £8.00 an hour as a standard wage, but gets paid **time and a half** for every hour at the weekend. His shifts this week are written below.

Monday: 9am - 6pm

Tuesday: 9am to 6pm

Wednesday: 9am - 6pm

Thursday: 9am to 5pm

Sunday: 3pm - 9pm

Calculate Hilary's wage for the week.

3

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Marks

2. A group of co-workers receive an annual bonus for being the best performing department

The amount of money they receive is proportional to how many years they have worked for the company.

Steiner - 12 years

Zidane - 8 years

Garnet - 6 years

Vivi - 5 years

Given that Zidane gets £384. How much do they get in total?

4

Marks

3. Tracy is going to South America.
She changes £1100 into Brazilian Real

Pounds into Brazilian Real	£1 = 4 Brazilian Real
Pounds into Argentinian Peso	£1 = 20 Argentinian Peso

- a) How many Brazilian Real will she get?

1

She spends 2800 Brazilian Real.
Then changes the remaining Brazilian Real into Argentine Peso

- b) How many Argentine Peso will he receive

2

Marks

4. A juice company produces bottles that are meant to be 500ml.

The machine that fills the bottles are designed to be within a tolerance of ± 2.5 ml. Any outside this tolerance will be rejected.

The following is a list of the volume of liquid inside bottles in ml.

502	497	498	501.15	503.4
498.9	501	504.9	502.2	499.1
500	499.9	501.4	502.1	498.7
501.3	502.6	498.9	500.4	500.7

State what **percentage** of the bottles will be rejected.

4

Marks

5. Jack is flying from London to Istanbul, the journey includes a stopover in Berlin.
- His flight leaves London at 2pm local time.
 - The flight to Berlin takes 2 hours and 40 minutes
 - After the stop in Berlin, the flight takes 2 hours and 10 minutes and arrives 10.35pm local time.
 - Istanbul is 3 hours ahead of London

Calculate how long the stopover in Berlin is.

3

6. Teri tries out a game at the carnival.

The game involves flipping a coin then rolling a dice.
To win you must either
Get a heads on a coin, followed by an even number or;
Land a tails followed by a 1 or a 6.

What is the probability of winning the game?

3

Marks

7. Ryan thinks that the answer to the following calculation is 12.9

$$3^3 - 4.7 \times 3$$

Is Ryan correct?
Justify your answer.

2

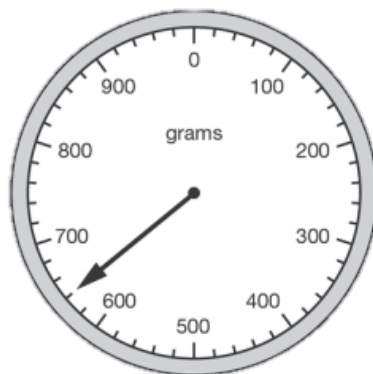
8. Gus has £80, Kelly has £54

Gus buys a PS4 game with using $\frac{3}{5}$ of his money.
Kelly buys an Xbox game using $\frac{4}{9}$ of her money.

Who has the most money left after this?

3

9. Jamie is making a cake and puts flour onto a scale.



The recipe state Jamie should put in 570g of flour.

State how much extra flour Jamie has put on the scale.

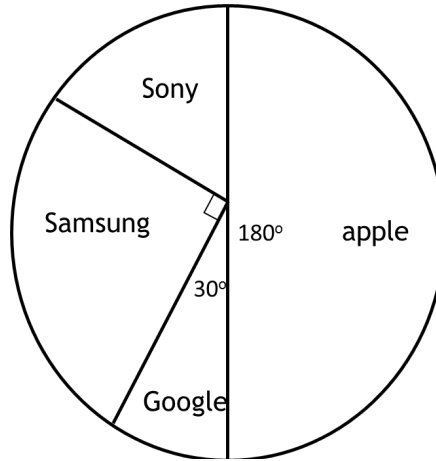
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10. Tifa bought 500 shares for £1200.
She decides to sell when the price of the shares increases to £2.80 a share.
There is a 5% selling fee.
Calculate the profit she made on her shares.

3

Marks

11. A survey of 480 people is carried out asking what brand of phone they have. The results are displayed in a pie chart below.



a) How many people said that they used a Sony phone?

2

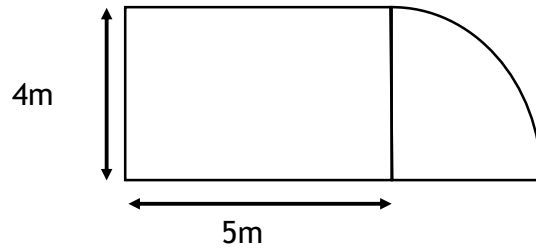
b) If you asked a different 1920 people, how many would you expect to say they had a Google Phone?

2

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Marks

12. The garden of a property is shown below.



Calculate the area of the garden. [Take $\pi = 3.14$]

3

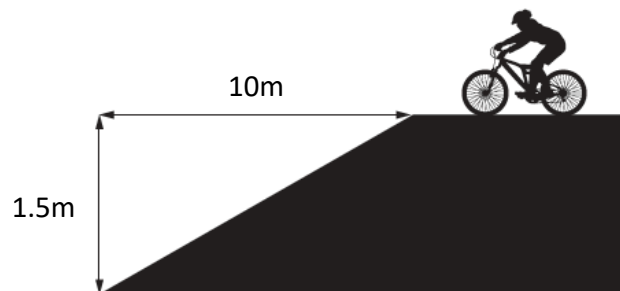
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Marks

13. When classifying mountain bike trails, the gradient of the steepest section is taken into account.

Colour grade	Maximum gradient
Green (Easy)	$\frac{1}{10}$
Blue (Intermediate)	$\frac{3}{20}$
Red (Advanced)	$\frac{1}{4}$
Black (Severe)	$\frac{1}{2}$

A new trail is built, the steepest section is shown below



Can this be classified as a blue trail?
Use your working to justify your answer

3

Marks

14. The amount of cars passing along Regent Street every hour is recorded in a stem and leaf diagram.

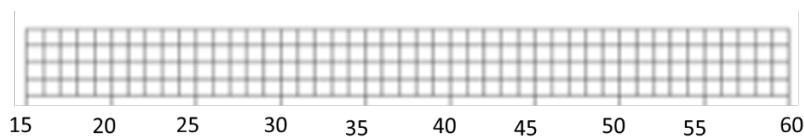
Stem	Leaf
2	3 4 5 7
3	0 0 5 6 6 7
4	2 4
5	0 5 6

- a) Calculate the median, lower quartile and upper quartile

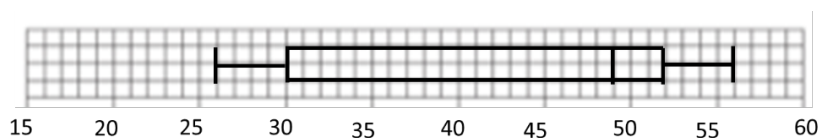
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- b) Construct a box plot to show this information.

2



A box plot to show the cars passing down National Street



- c) Make a valid comparison about the amount of cars passing down the two streets.

1