



Use of Appropriate Units

Converting Units

Calculating Rates

→

e.g.

→

Area A section of a quadrat measures 10x10cm. Calculate its area in ...

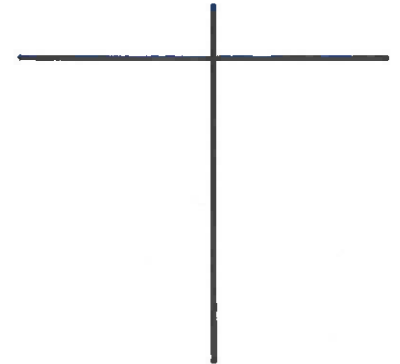
a) $\text{cm}^2 =$

b) $\text{mm}^2 =$

Volume

a)

b)



Prefixes You Should Know

SI Units You Should Know

Name	Symbol	Factor



Decimals & Standard Form

- 1
- 2
- 3
- 4
- 5



Questions

Standard Form Calculations

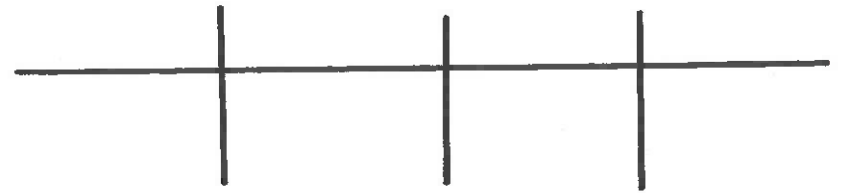
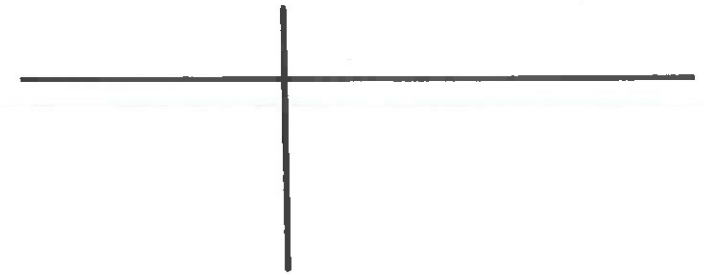


Ratios

1 2 3 4 5



Surface Area : Volume



→



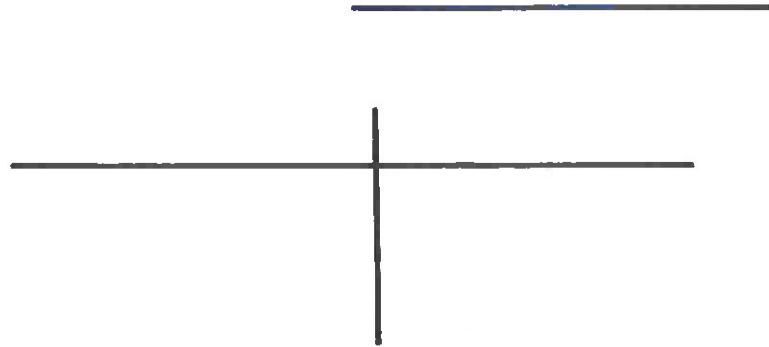
Percentages

1 2 3 4 5

→

→

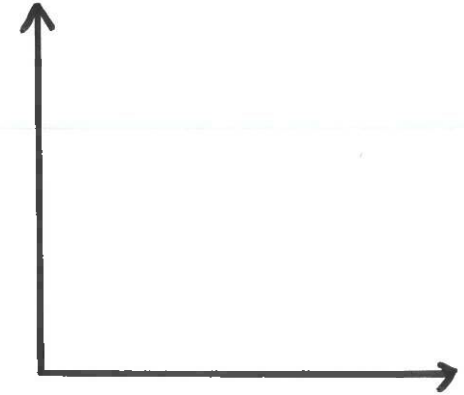
Percentage Change



Calculate the % change in impulse speed as the axon diameter changes

a) $2\mu\text{m}$ to $3\mu\text{m}$

b) $3\mu\text{m}$ to $1\mu\text{m}$



→ Calculate the % decrease between groups A and B at 2 seconds

Percentage Yield

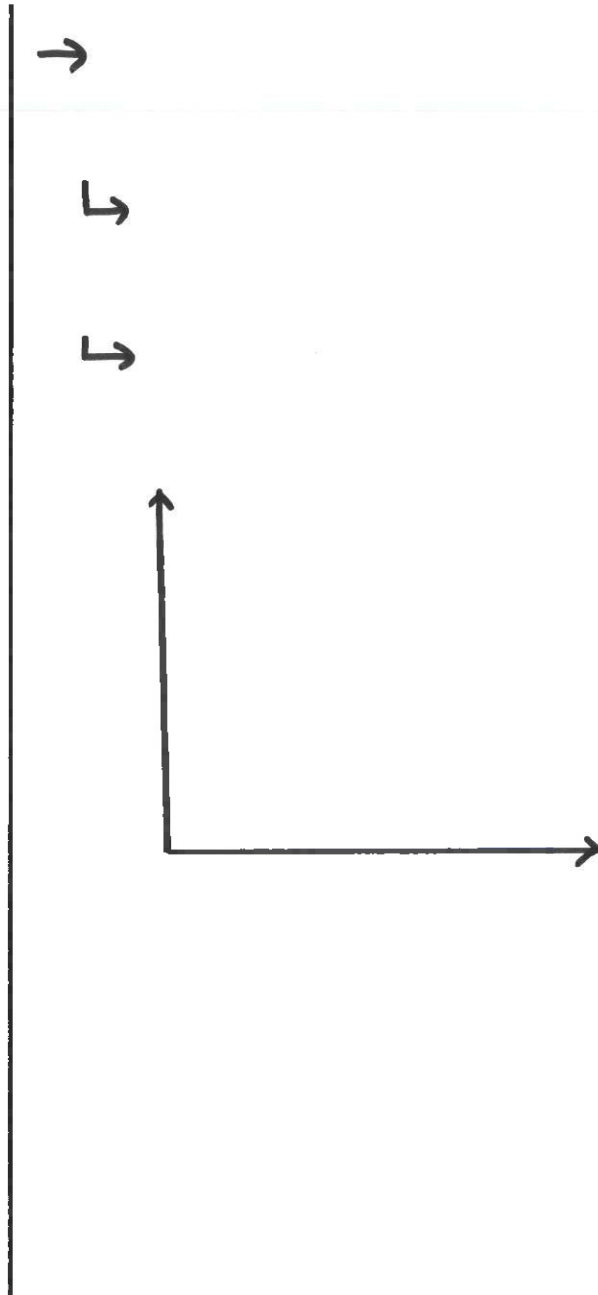


→ Theoretical yield = 250g
only 212g was produced. Calculate the percentage yield.



Estimation

- 1
- 2
- 3
- 4
- 5



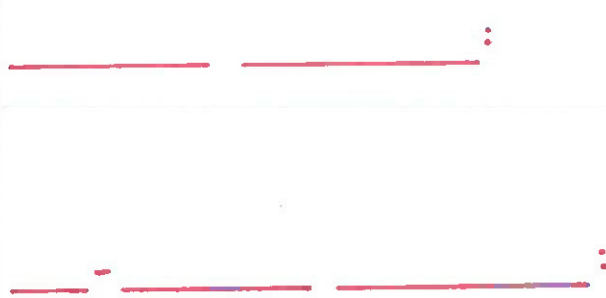
Percentage Change

Ratio



Principles of Sampling

Random Sampling

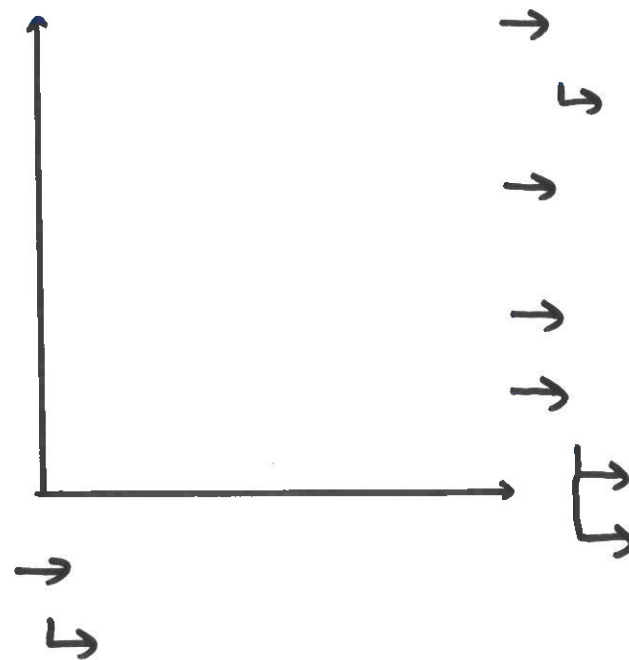


e.g.

Non-Random Sampling



Random-Sampling: Quadrats





Using an Appropriate Number of Significant Figures

1 2 3 4 5

Decimal Places & Significant Figures

Adding & Subtracting Decimals

→

→

✓

✗

Rounding

→

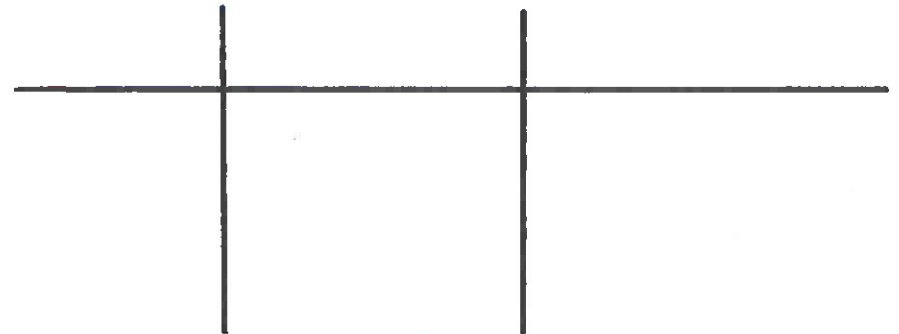
e.g.

→

Multiplying & Dividing Decimals

→

→





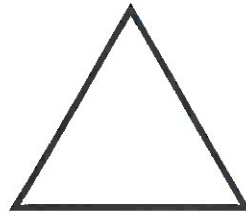
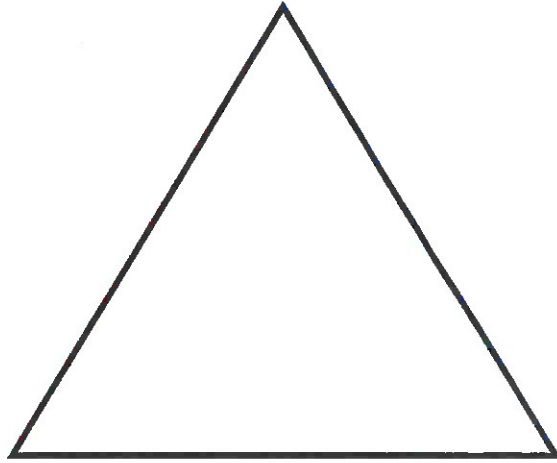
Order of Magnitude Calculations

- 1
- 2
- 3
- 4
- 5

Magnification



Resolution





Averages

Data Set 1: 16, 22, 14, 22, 20, 19, 17, 22

(Arithmetic)
mean

_____ ():

Median

_____:

→

↳

Mode

_____:

Data Set 1

Data Set 2: 12, 8, 6, 9, 8, 13, 6

↳

Range

_____:

Data Set 1 :

Data Set 2 :

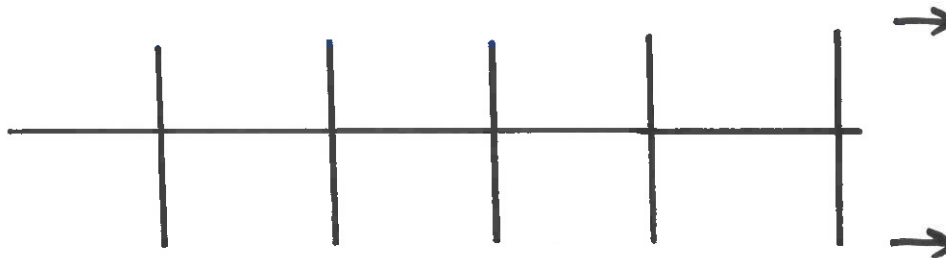


Probability

Stats Tests →

Inheritance

Multiplying Probabilities

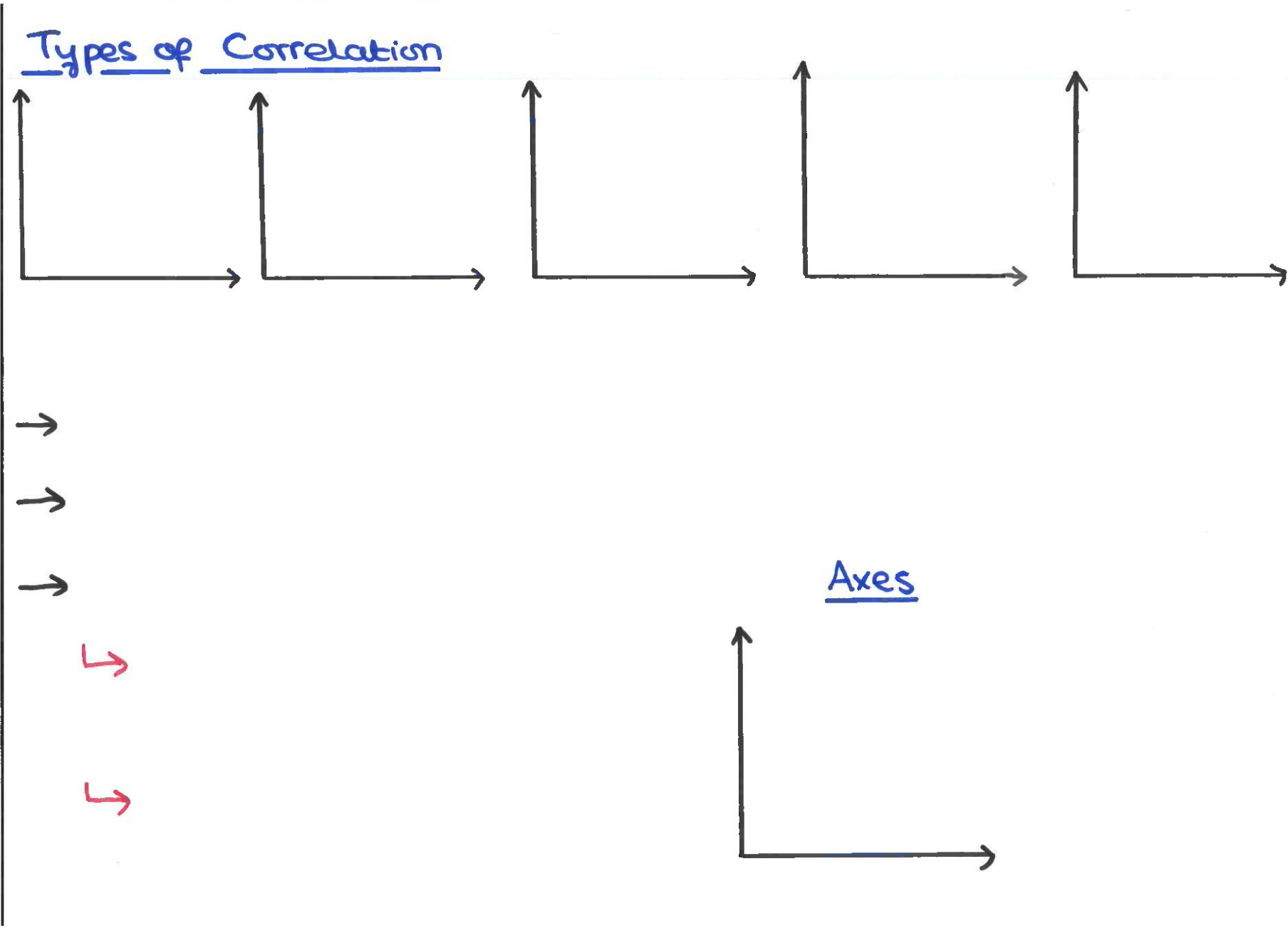




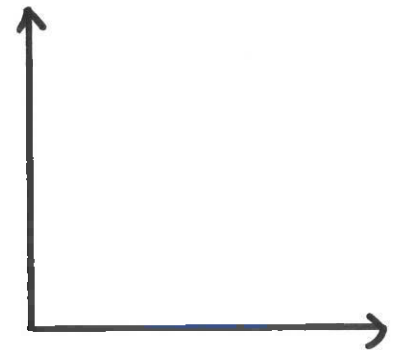
Scatter Diagrams

- 1
- 2
- 3
- 4
- 5

Types of Correlation



Axes





Tables & Bar Charts

1 2 3 4 5

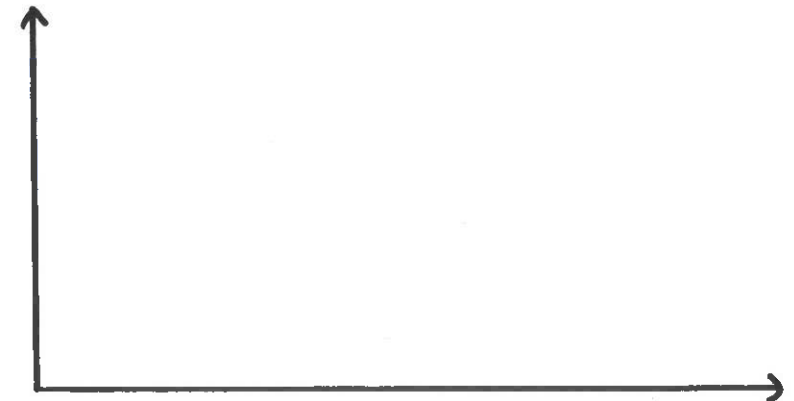
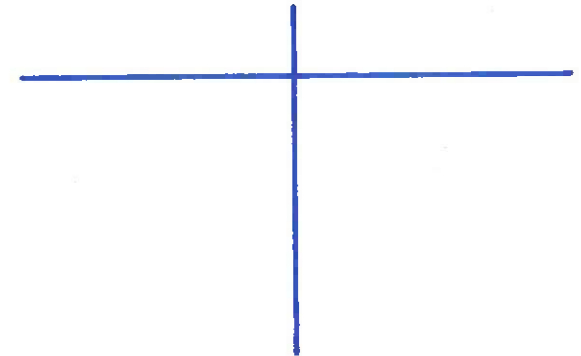
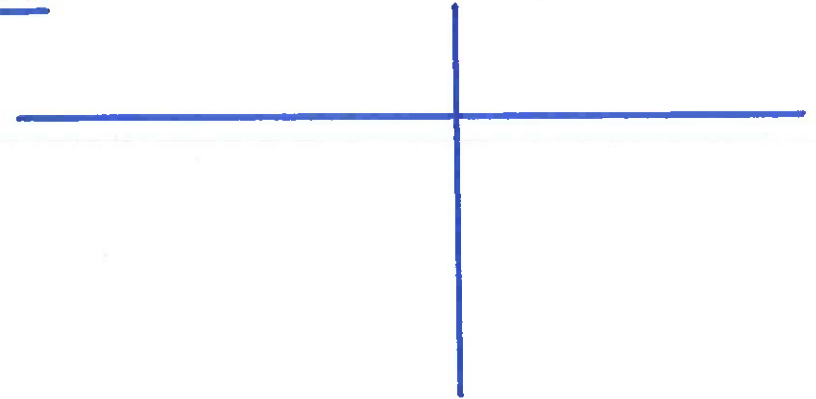
Tables



Bar Charts



e.g.

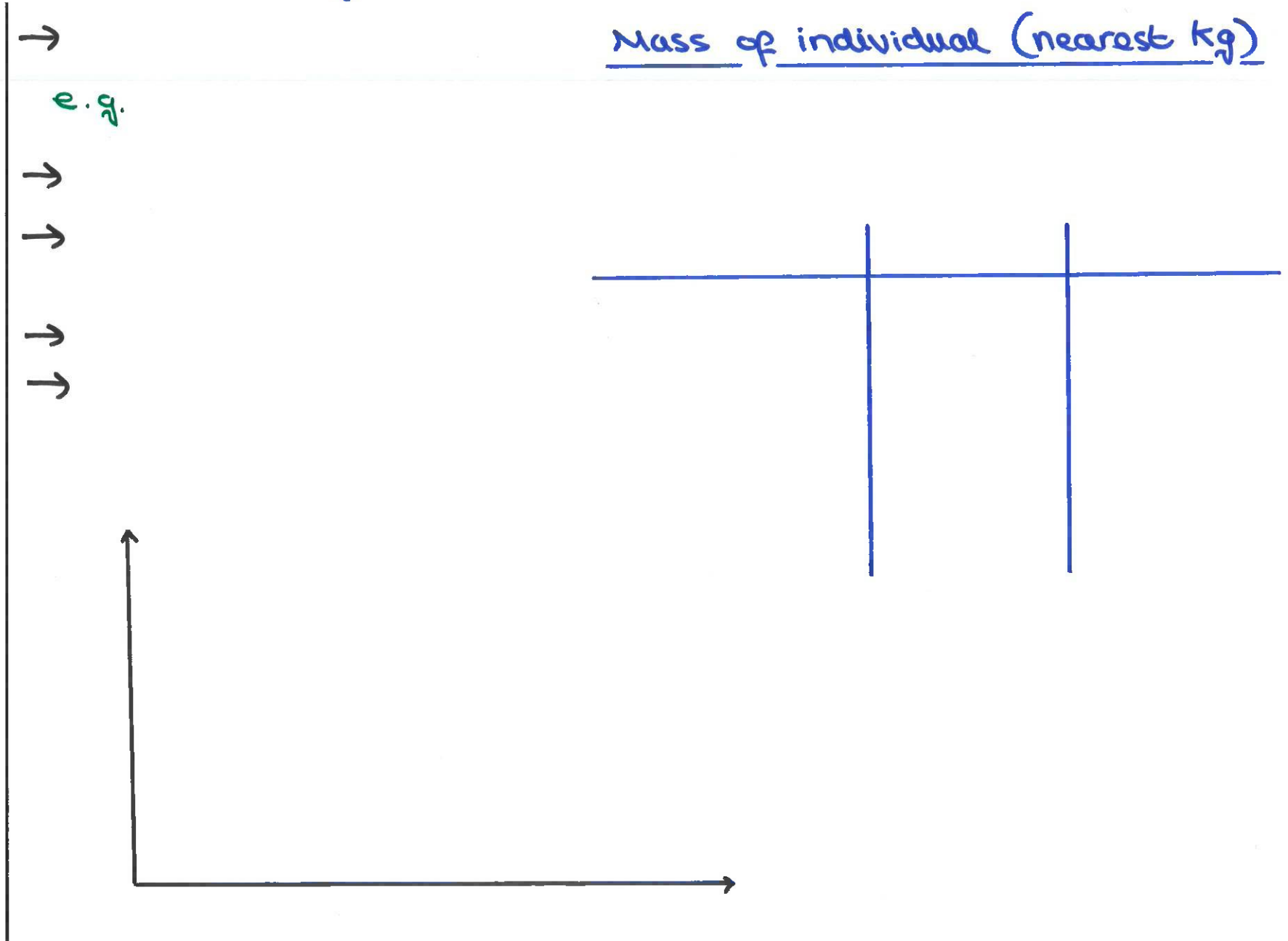




Histograms

1 2 3 4 5

Mass of individual (nearest kg)





Uncertainties in Measurements

1 2 3 4 5

→

e.g.

Adding & Subtracting Uncertain Values

Start :

End :

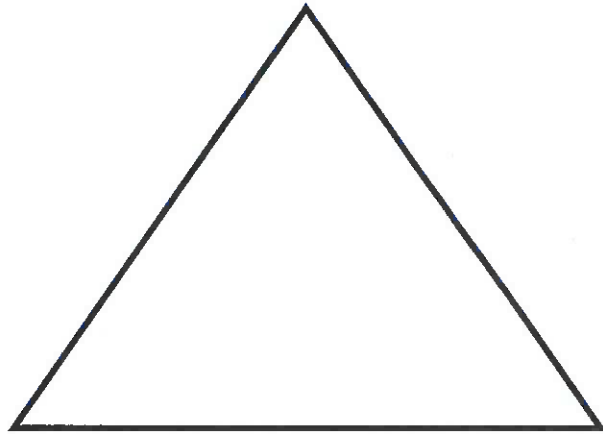
Volume :
Change



Change the Subjects of an Equation

- 1
- 2
- 3
- 4
- 5

$$(\quad) = (\quad)$$



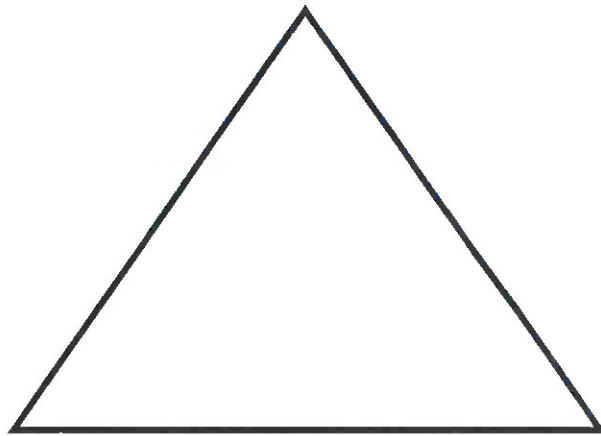


Solve Algebraic Equations

1 2 3 4 5

=

x



Calculate stroke volume after training



Drawing Graphs

Drawing.



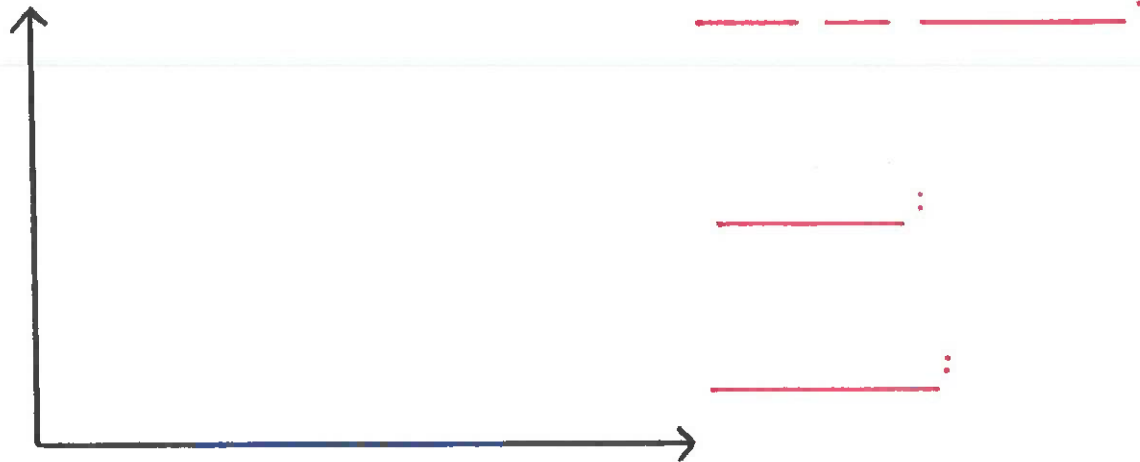
Line of Best Fit





Tangents

Rate of Reaction



Tangent

Q. Find the initial rate of reaction at 60°C

Method



Gradient

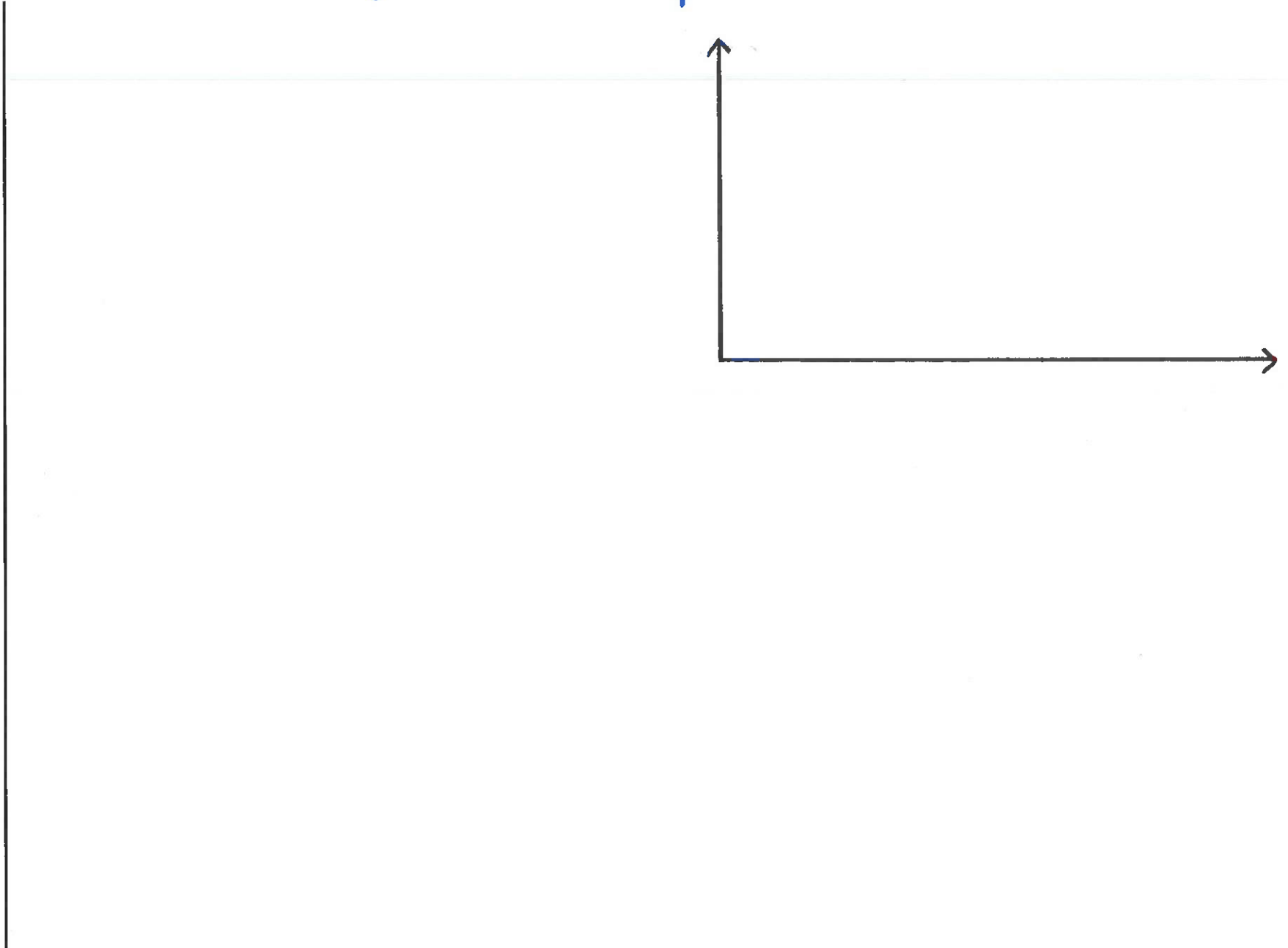
Q. Find the rate of reaction at 28min at 37°C





Straight Line Graphs

- 1
- 2
- 3
- 4
- 5

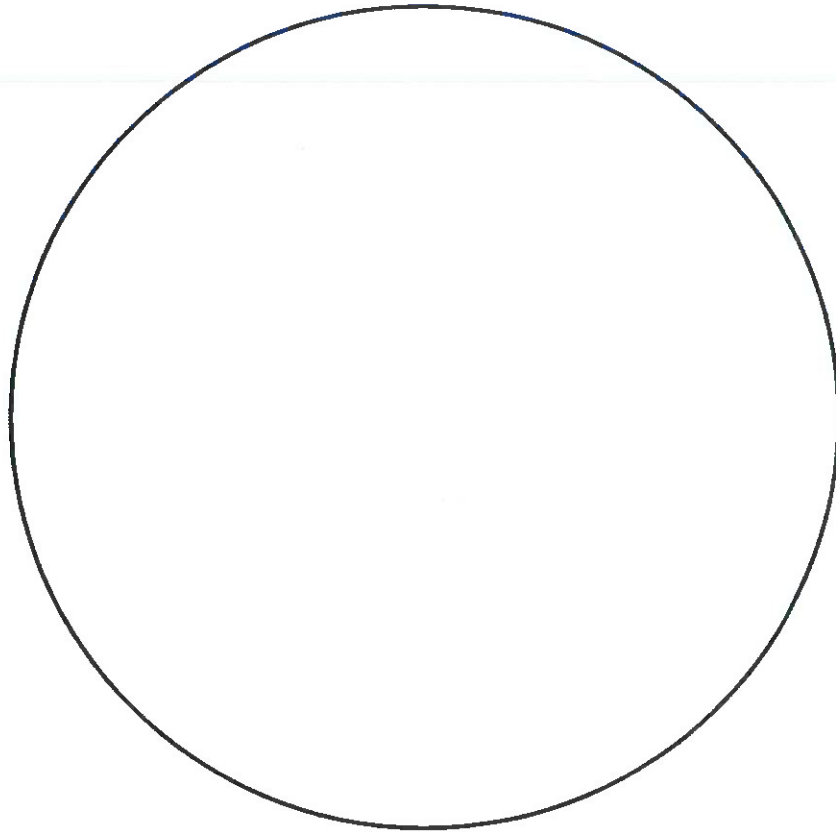




Circumference & Surface Area of Circles & Spheres

- 1
- 2
- 3
- 4
- 5

Circles



Spheres



Rectangular & Cylindrical Prisms

1 2 3 4 5

Rectangular Prism

Volume

Surface Area

Cylindrical Prisms

Surface Area

Volume