The National Orthodox School /Shmaisani

المدرسة الوطنية الأرثوذكسية الشميساني

The National Orthodox School Shmaisani

Subject: Science/ Physics	
Name: ………………………………	**Title: Worksheet 2 – Types of Graphs**
Grade-Section: 6 CS -	**Date: …………………………..**

Objectives:

- Draw a bar chart, line graph, and a line of best fit.
- Describe what is meant by an anomalous point.
- Be able to analyze different types of graphs.

1. Bar Charts and Pie Charts:

Data that is counted and has **no in-between value** is called **discrete data**. Discrete data is usually presented as a **bar chart or a pie chart**.

Question 1: The pie chart below shows the percentage distribution of three components the weight of a human being:

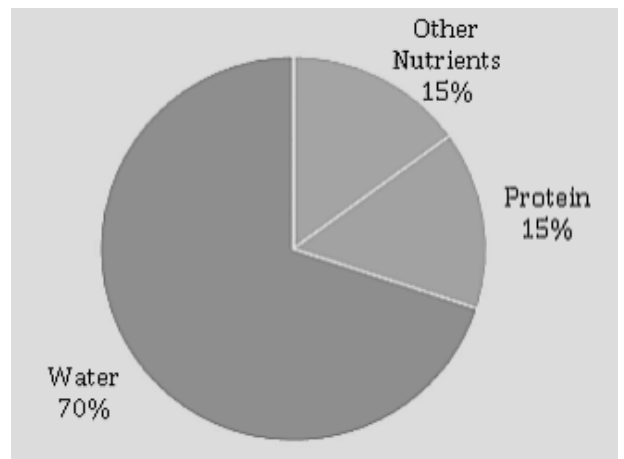1. What percentage of the weight of a human being is protein?

………………………………………………………………………

2. Which component is the major component of the weight of a human being?

………………………………………………………………

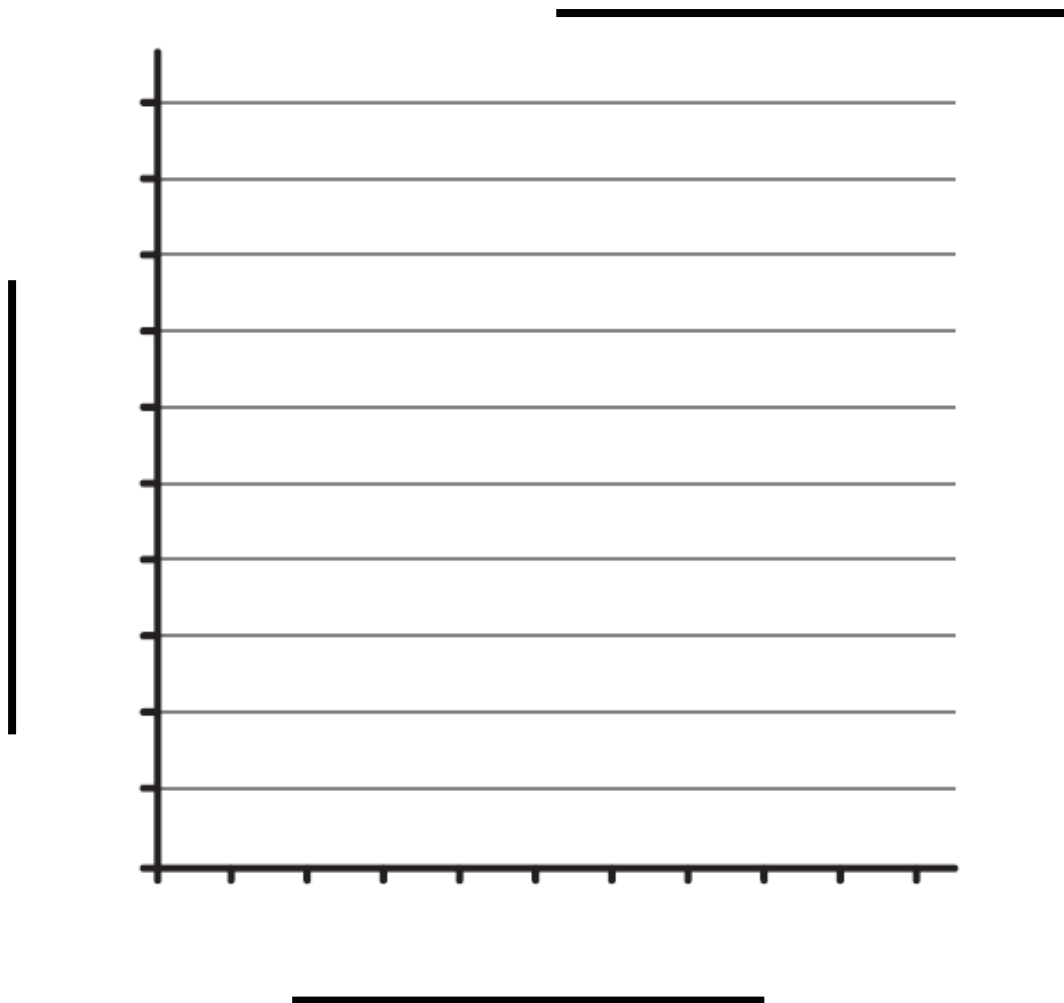3. What is the percentage of water in a human being?

……………………………………………………………………..

Question 2:

Grade 6 students are investigating friction on different surfaces. They measured the distance a toy car moved on each surface. Here are their results:

Surface	Distance the car moved (cm)
Sand paper	20
Carpet	18
Glass	32
Cardboard	22
Wood	26

Draw a bar chart to represent their results.

2. Line Graphs:

Line graphs are used to display data or information that changes continuously over time. They show **continuous data**. Data is plotted in the same way as a coordinate grid. These data plots are then joined with straight lines.
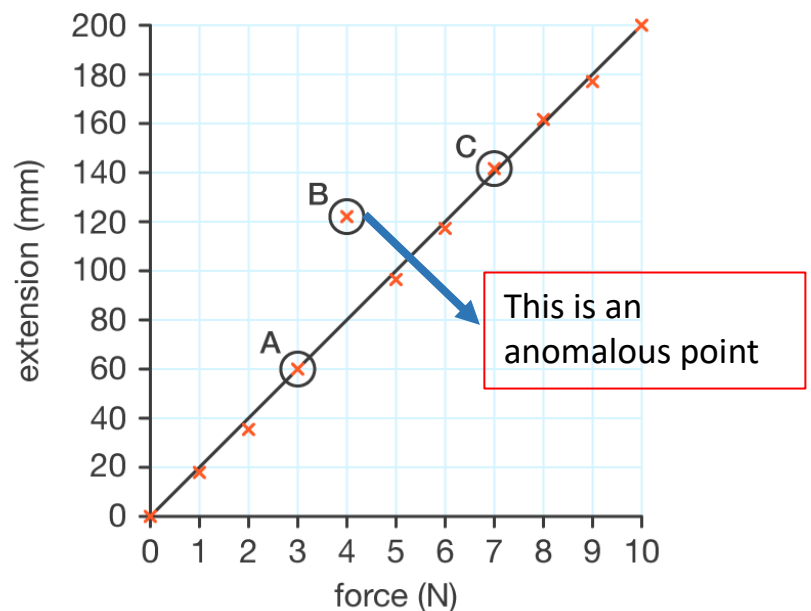
Line of best fit:

A **line of best fit** is a smooth line going through or close to as many of the points as possible.
This line may pass through some of the points, none of the points, or all of the point.

Anomalous Points:

The Effect of Force Applied on the Extension of a Spring

Anomalous means something that doesn't fit the pattern.


This is an anomalous point

Question 3:

Grade 6 students were investigating how the surface area of a parachute affects the time it takes it to land. They made paper parachutes and measured the time taken by each parachute to land. They dropped them from the same height, and recorded their results in this table:

Surface Area (cm^2)	Time (sec)
15	3
30	6
45	13
60	12
75	15

Plot the results on the graph paper below. **Draw a line of best fit**.

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Time (Sec)

Surface Area (cm^2)
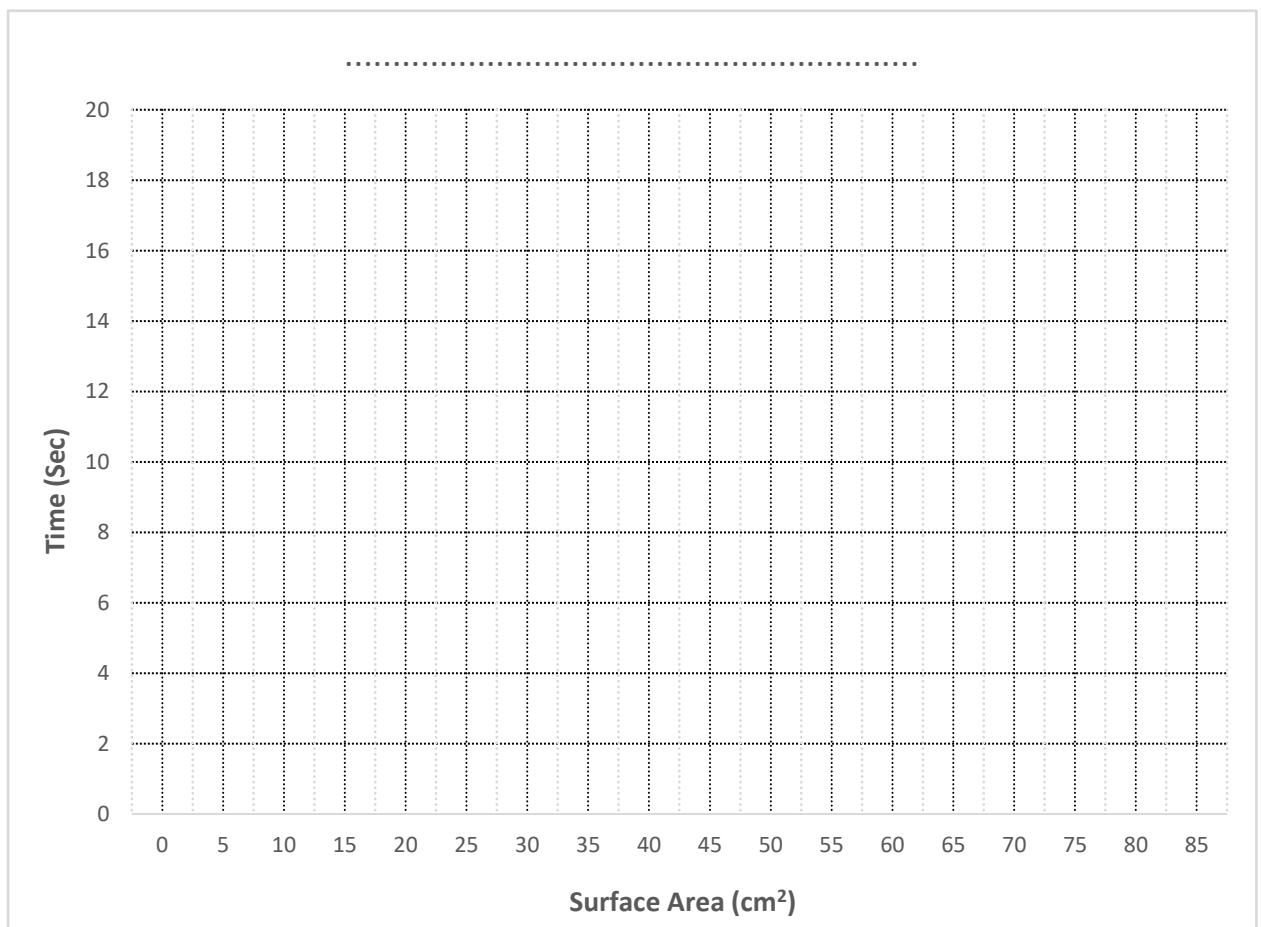
3. **Scatter Graph:**

A scatter graph is a tool for analyzing relationships between two continuous variables for determining how closely the two variables are related. If the points are close to each other and you can draw a line of best fit, then there is **correlation** between these variables.

Question 4:

Study the graphs below and answer the questions:

1)
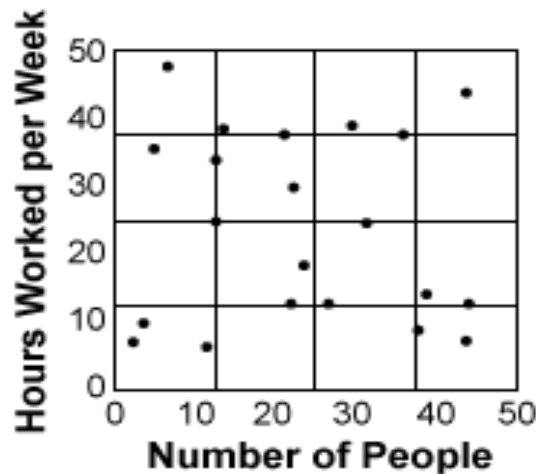
a. What type of graph is shown?

   ……

b. What are the variables the graph is showing?

   ……

   ……

c. Is there a correlation between these variables? Explain why.

   ……

   …… .

2)

a. What type of graph is shown?

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b. What are the variables the graph is showing?

……

……

c. Is there a correlation between these variables? Explain why.

……

……… .