# How Did Jesus Walk On The Earth 2000 Years Ago?

## UNIT 3: PROBLEM

Name: _____

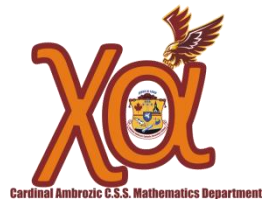Teacher: _____

Cardinal Ambrozic C.S.S. Mathematics Department

RELATIONSHIPS | Grade 9 Academic Mathematics Student Workbook | MPM1D1

*"Making decisions in light of gospel values with an informed moral conscience"*

# Unit 3: Relations

MPM1D1
Grade 9 Academic Mathematics:  Principles of Mathematics

| Tool Number | Lesson Title & Topics | Topics | Homework |
|---|---|---|---|
| 3.1A | Introduction to Relationships and Scatter Plots | CSI Introduction SPT Forensic Science Introduction Measuring Body Parts Activity Tomatoes Sphere | -2.3 #3, 5, 8 |
| 3.1B | Introduction to Relationships and Scatter Plots | CSI Introduction SPT Forensic Science Introduction Measuring Body Parts Activity Tomatoes Sphere | -2.3 #3, 5, 8 |
| 3.2 | Trends in Data and Correlations | The Shroud of Turin Literacy Activity Correlation Independent/Dependent Extrapolation/Interpolation Graph With Nspire Predict Jesus' Walking Stride | -2.4 #2, 3, 4, 8 |
| 3.2B | Trends in Data and Correlations | The Shroud of Literacy Activity Correlation Independent/Dependent Extrapolation/Interpolation Graph With Nspire Predict Jesus' Walking Stride | -Assessment |
| 3.3 | Carousel of Relationships | Non-Linear Introduction 5 Activities | -2.5 #1, 2, 3, 5, 7, 12 |
| 3.3B | Carousel of Relationships II | Non-Linear Introduction 5 Activities | -2.5 #1, 2, 3, 5, 7, 12 |
| 3.4 | First Differences and Cartesian Plane | TIPS Lesson | -5.5 pg.276 #2, 3, 4, 5, 6 -5.6 #2, 4, 6, 8, 10, 11, 13 |
| 3.5 | Jazz Day | Collect Evidence | |
| 3.6 | Performance Task | CSI Brampton I | |

Parent/Guardian Signature: _____

## Checklist

I understand and can correctly complete questions involving:

___    Relationships

___    Modeling relationships: Table of Value and Scatter Plots

___    Correlation: Positive/Negative/Constant/No, Linear/Non-Linear and Strong/Moderate/Weak

___    Trend Line/Line of Best Fit

___    Curve of Best Fit

___    Making Predications: Interpolation/Extrapolation

___    First Differences

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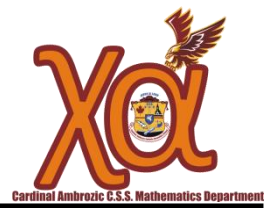
| **Introduction: The Shroud of Turin – Watch Video** |
| --- |

The Shroud of Turin (or Turin Shroud) is a linen cloth bearing the image of a man who appears to have been physically hurt in a manner consistent with crucifixion. It is kept in the royal chapel of the Cathedral of Saint John the Baptist in Turin, Italy. How and when the shroud and its image were created is the subject of intense debate among scientists, believers, historians and researchers.

Believers contend that the shroud is the cloth placed on the body of Jesus Christ at the time of his burial, and that the face image is the Holy Face of Jesus. Detractors contend that the artifact postdates the Crucifixion of Jesus by more than a millennium. Both sides of the argument use science and historical documents to make their case.

The image on the shroud is much clearer in black-and-white negative than in its natural sepia color. The striking negative image was first observed on the evening of May 28, 1898, on the reverse photographic plate of amateur photographer Secondo Pia, who was allowed to photograph it while it was being exhibited in the Turin Cathedral. The Catholic Church has neither formally endorsed nor rejected the shroud, but in 1958 Pope Pius XII approved of the image in association with the Roman Catholic devotion to the Holy Face of Jesus.

1. How old is the shroud of Turin?

2. Who is the man on the Shroud of Turin?

3. What is the Shroud of Turin Depicting?

4. How long is the Shroud?

5. What is Carbon-14 used for? What did this show?

6. Is it possible to determine how big the Man on the Shroud's steps was when he walked on earth? Discuss this with your team and using the concept map below.

# Concept Map | Brainstorming

## How Big Was Jesus' Walking Stride? Concept Map

Individually in your placemat, list all the tools, concepts and items you need to determine 1) Jesus' Stride Length and 2) Foot Size. You and your group will share your points one at a time. point that is repeated two or more with your group will be written in the middle circle
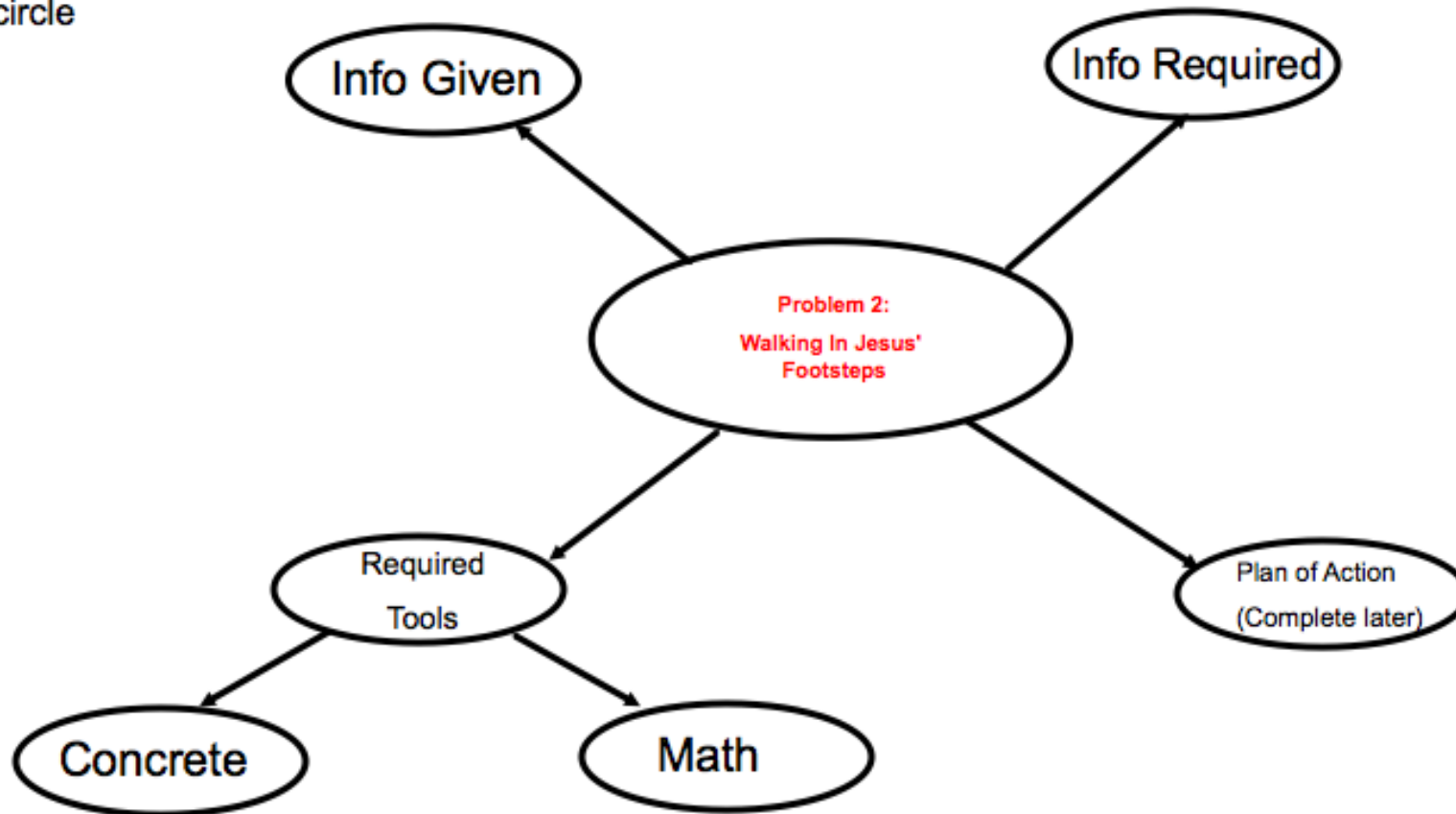
inspiration

poplet

BigMind

Info Given

Info Required

Problem 2:
Walking In Jesus'
Footsteps

Required
Tools

Plan of Action
(Complete later)

Concrete

Math

Emphasize Relationships and why they are so useful in predications

The data below displays the average hours per week adolescence listen to the radio.

Plot the data from the chart on the grid.

| Year | Hrs/Wk |
|------|--------|
| 1999 | 11.3 |
| 2000 | 10.5 |
| 2001 | 10.1 |
| 2002 | 9.4 |
| 2003 | 8.5 |
| 2004 | 8.5 |
| 2005 | 8.6 |
| 2006 | 7.6 |

**Hours of Radio PerWeek**
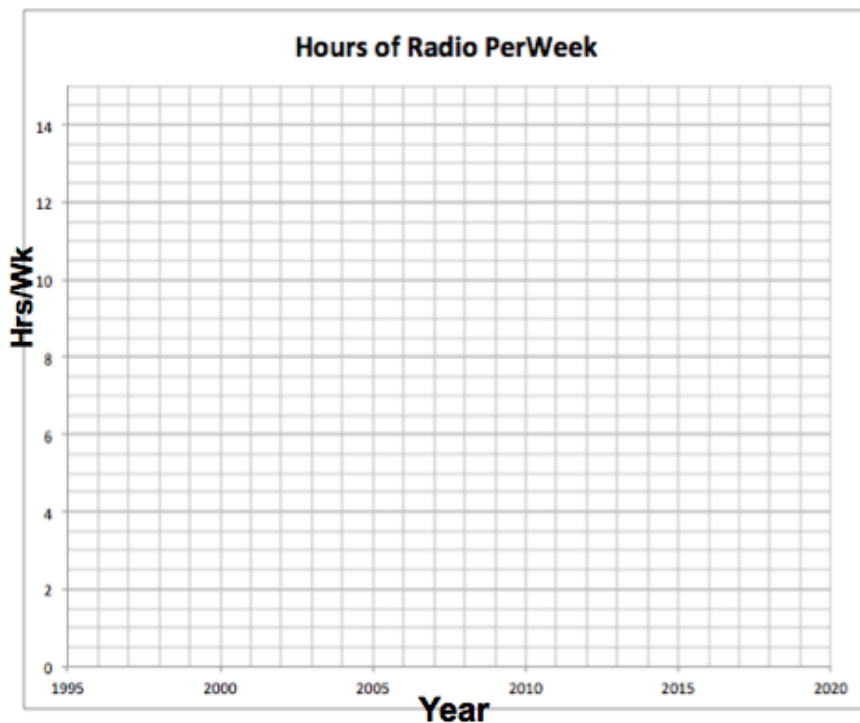
1. Describe the pattern of dots on the scatter plot.
2. Describe the relationship between the weekly hours listening to the radio and the year.
3. Why does this relationship occur?
4. Will there ever be a time where radio will not be listen to? Explain.

# Relationships In Our Body

Complete the following statements by yourself, then share your answers with your partner. Explain the reasons for your choice. Indicate if you and your partner agree or disagree.

| Is There a Relationship? | My Partner and I: |
|---|---|
| As a person gets taller their armspan _____. <br><br> (*gets wider, gets smaller, stays the same*) | __ agree <br><br> __ disagree |
| The longer a person's legs are _____ they run. <br><br> (*the faster, the slower, will make no difference to how fast*) | __ agree <br><br> __ disagree |
| As a person's foot size increases, their walking stride _____. <br><br> (*gets longer, gets shorter, stays the same*) | __ agree <br><br> __ disagree |
| As a person's forearm gets longer, their armspan _____. <br><br> (*gets longer, gets shorter, stays the same length*) | __ agree <br><br> __ disagree |
| The longer a person's thumb is _____ their index finger. <br><br> (*the longer, the shorter, will make no difference to the length of*) | __ agree <br><br> __ disagree |
| As a person gets taller, their foot size _____. <br><br> (*gets longer, gets shorter, is not affected*) | __ agree <br><br> __ disagree |

| Height (cm) | Forearm (cm) | Arm Span (cm) | Foot Length (cm) | Walking Stride (cm) | Hand Span (cm) |
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Using class data from Day 1, choose two measurements that you would like
Create a scatter plot of your chosen relationship on grid paper.
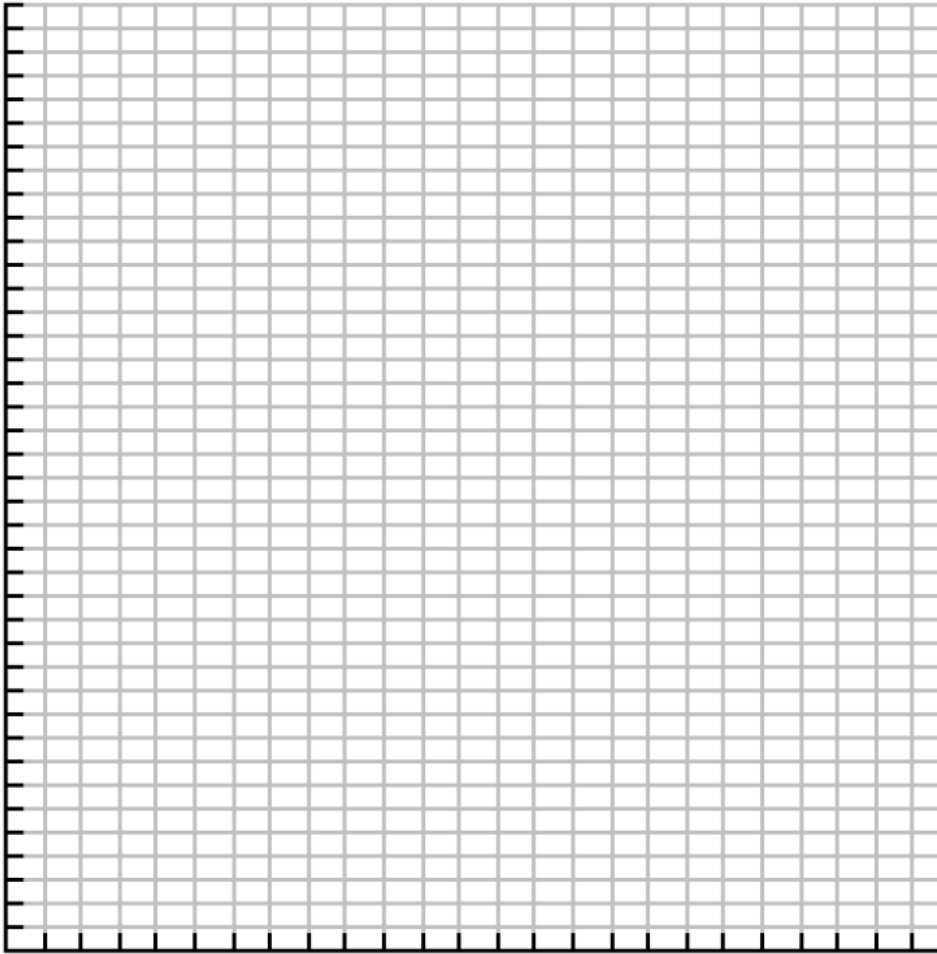
a) Height vs Foot Length
b) Arm Span vs Hand Span
c) Stride vs Forearm
d) Height vs Stride
e) Arm Span vs Forearm
f) Height vs Hand Span
g) Hand Span vs Arm Span
h) Height vs Forearm
i) Hand Span vs Foot Length
j) Forearm vs Foot Length
k) Heigh vs Arm Span

**Using your graph answer the following questions:**

1. Which phrase describes the direction of the plotted points in the graph?

   a) The plotted points rise upward to the right.
   b) The plotted points fall downward to the right.
   c) The plotted points are scattered across the graph.

2. Describe the relationship between the two quantities.

3. How could you use this graph to predict additional measurements? Expla

Using class data from Day 1, choose two measurements that you would like to investigate. Create a scatter plot of your chosen relationship on grid paper.
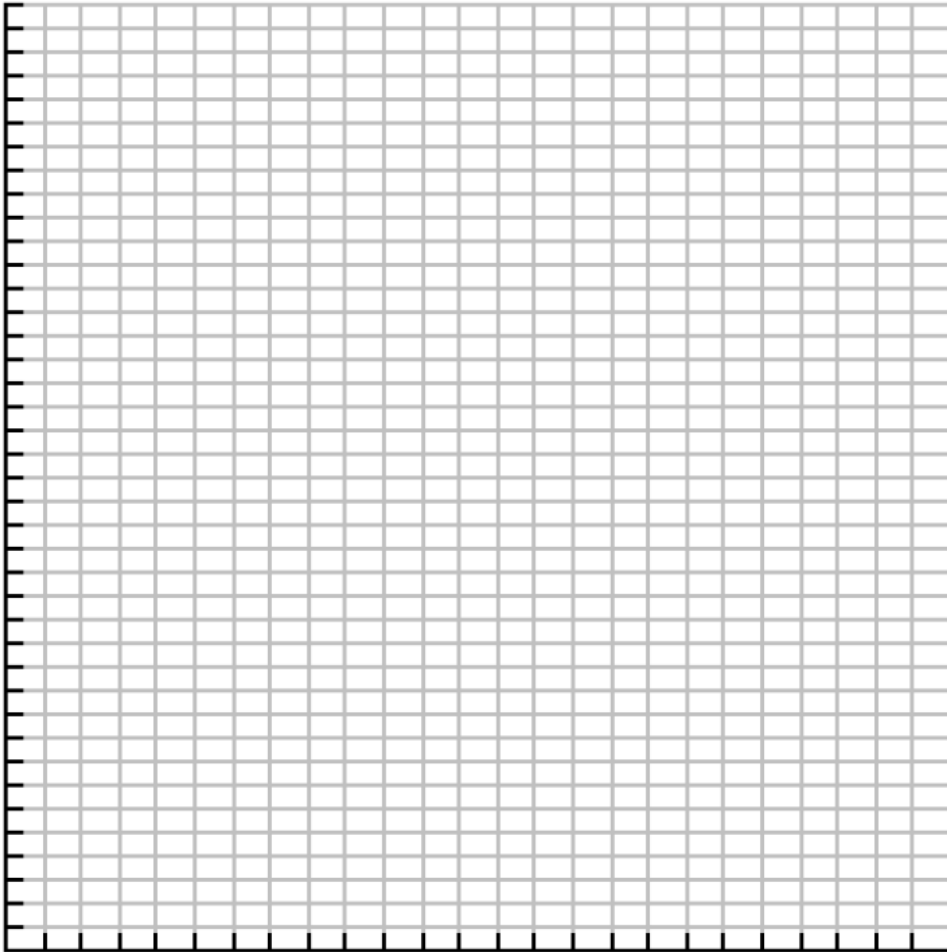
**Using your graph answer the following questions:**

1. Which phrase describes the direction of the plotted points in the graph?

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    b) The plotted points fall downward to the right.
    c) The plotted points are scattered across the graph.

2. Describe the relationship between the two quantities.

3. How could you use this graph to predict additional measurements? Explain.

**Think, Pair, Share**

**MINDS ON**

# Life Expectancy
Examine both graphs and answer the questions in the proceeding pages
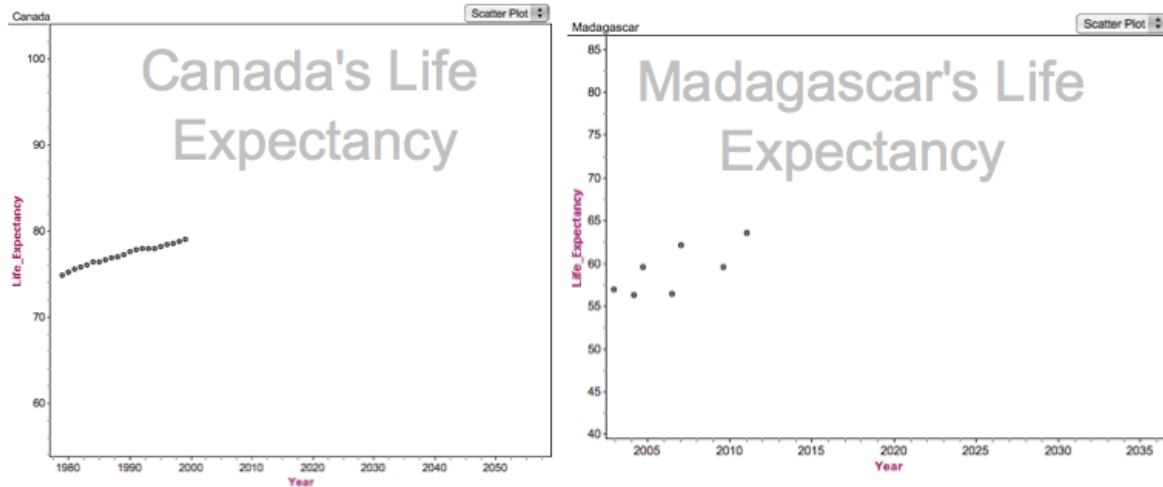


1. Which country has the greater life expectancy? Explain.
2. What was the life expectancy for both countries in 2002?
3. Predict the life expectancies for both countries in 2015. Explain how find your answer (Have Student demonstrate on Smart Notebook App).
4. At what year will both countries have a life expectancy of 90 years old? Explain how you got that answer (Have Student demonstrate on Smart Notebook App).
5. Which graph do you believe is a better graph to make predictions? Explain.

**MINDS ON**
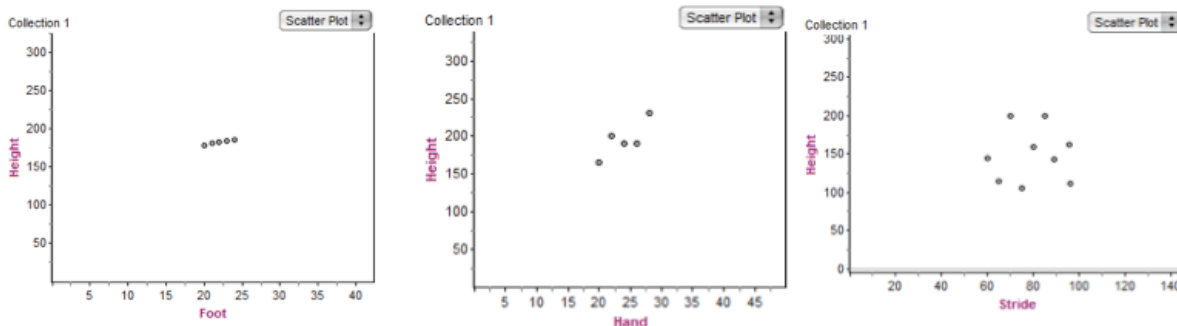


You want to predict a person's height. The only information you are given is the persons hand size. foot size and stride length. You are also give three relationships for height. Which relationship is best used to predict the person's heigh? Explain

Leg Length (cm) vs. Tibia Length (cm)
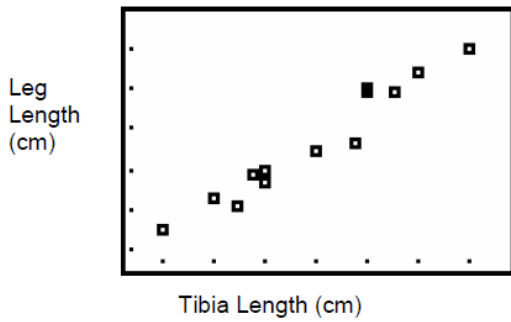
1. The graph shows the plotted points rising upwards to the right.
   - Agree
   - Disagree
   - Pass

2. As the length of the tibia increases the length of the leg increases.
   - Agree
   - Disagree
   - Pass

3. The graph can be used to determine the length of a person's leg if you know the length of the tibia bone.
   - Agree
   - Disagree
   - Pass



Number of Baskets vs. Distance from the Basket

1. The graph shows the plotted points falling to the right.
   - Agree
   - Disagree
   - Pass

2. As the distance from the net increases the number of baskets made decreases.
   - Agree
   - Disagree
   - Pass

3. The graph can be used to determine the number of baskets you will make if you know the distance from the basket.
   - Agree
   - Disagree
   - Pass

1. The graph shows the plotted points scattered.
   - Agree
   - Disagree
   - Pass

2. As the age of the house increases the price of the house is either large or small.
   - Agree
   - Disagree
   - Pass

3. The graph can't be used to determine the price of the house if you know how old it is.
   - Agree
   - Disagree
   - Pass



House Price ($) vs. Age of House
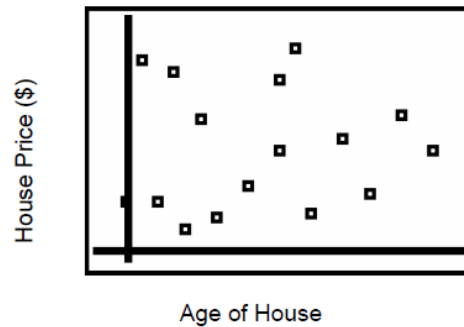
## Introduction to Scatter Plots

The graphs below illustrate the effects of smoking by plotting the percent of cancer versus the amount of cigarettes.
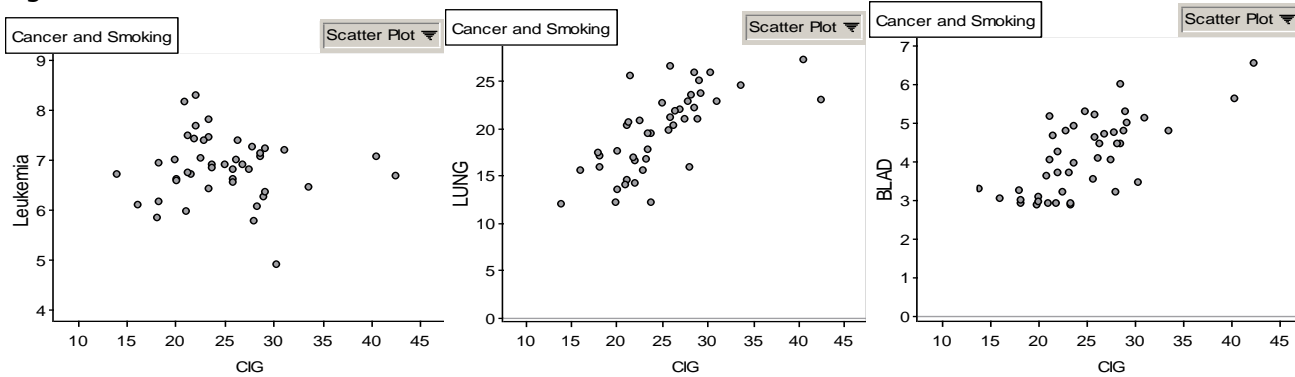


1. Out of all the cancers which do you think smoking has a greater effect on?

2. How can you tell from these graphs?

## Dependent and Independent Variables

- We have only dealt with statistics of one variable but many relationships occur from two variables
- We learned in grade 9 that we can treat this data creating a scatter plot:
  - _____lies in the vertical axis (y-axis)
  - _____lies in the horizontal axis (x-axis)
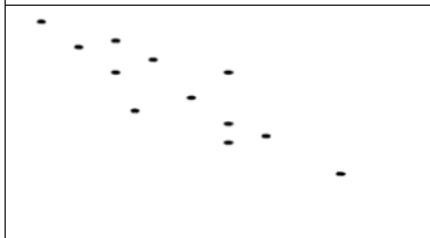- The independent variable causes the dependent variable to change as it increases or decrease.
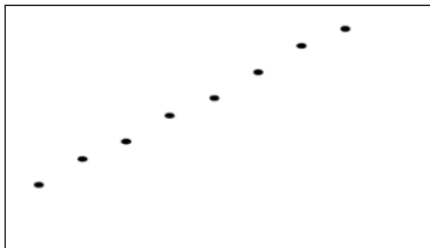
**Example 1)** For each relationship,
- a) Determine which variable is dependent or independent
- b) Draw a sample scatter plot to represent the way you think the data will behave

  (i) The age of a child and the child's height
  (j) The number of hours a student studies per course and his or her average mark in the course
  (k) The time of day and the number of cups of coffee sold
  (l) The amount of snowfall and the number of collisions on major highways
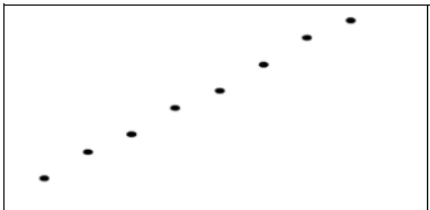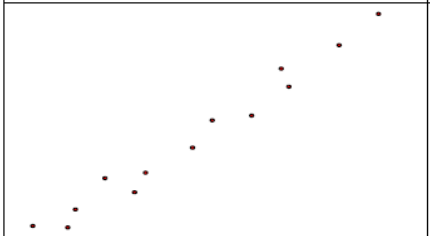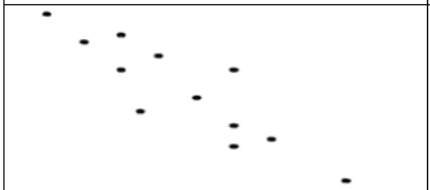  (m) A person's income and the amount she or he spends on clothing

Correlation helps to describe the relationship between 2 quantities in a graph.
Correlation can be described as positive or negative, strong or weak or none.

## Positive or Negative Correlation

| | |
|---|---|
| | A scatter plot shows a _____ correlation when the pattern rises up to the right. *This means that the two quantities increase together.* |
| | A scatter plot shows a _____ correlation when the pattern falls down to the right. *This means that as one quantity increases the other decreases.* |

## Strong or Weak Correlation

| | |
|---|---|
| | If the points nearly form a line, then the correlation is _____. To visualize this, enclose the plotted points in an oval. If the oval is *narrow*, then the correlation is *strong*. |
| | If the points are dispersed more widely, but still form a rough line, then the correlation is _____. |
| | If the points are dispersed even more widely, but still form a rough pattern of a line, then the correlation is _____. If the oval is *wide*, then the correlation is *weak*. |

## No Correlation

| | |
|---|---|
| | A scatter plot shows _____ correlation when no pattern appears. *Hint:* *If the points are roughly enclosed by a circle, then there is no correlation.* |

## Line of Best Fit (Trend Line)

To be able to make predictions, we need to model the data with a line or a curve of best fit.

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**Rules** for drawing a line of best fit:

1.  The line must follow the _____.

2.  The line should _____ through as many points as possible.

3.  There should be _____ of points above and below the line.

4.  The line should pass through points all along the line, not just at the ends.

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Use the information below to draw a scatter plot. Describe the correlation and draw the line of best fit.

The teachers at Holy Mary high school took a survey in their classes to determine if there is a relationship between the student's mark on a test and the number of hours watching T.V. the night before.

| Mark % | 75 | 70 | 68 | 73 | 59 | 57 | 80 | 65 | 63 | 55 | 85 | 70 | 55 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Number of Hours | 1 | 2 | 3 | 2 | 4 | 4.5 | 1 | 3 | 3.5 | 4 | 1 | 2.5 | 4 |
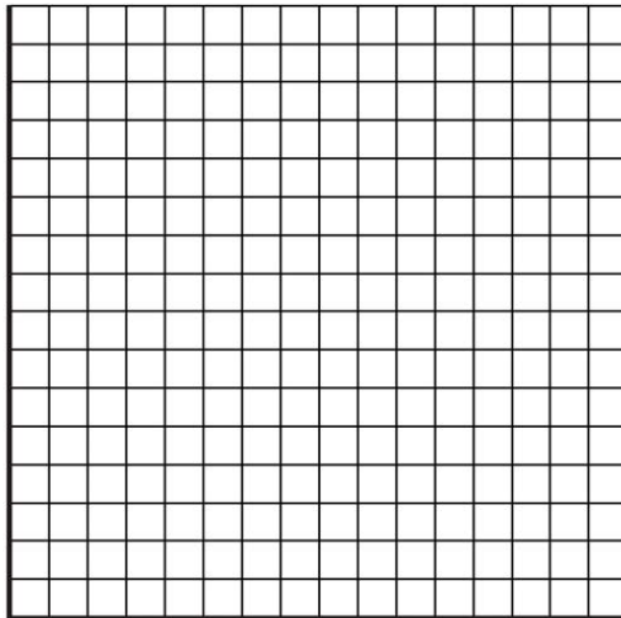
## Making Predictions: Interpolation and Extrapolation

A *scatter plot* is a graph that shows the _____ between **two** variables.

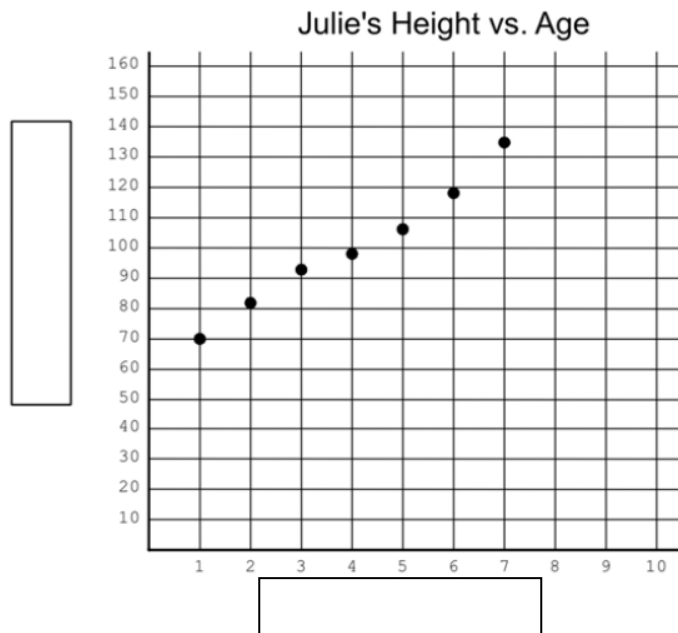The points in a scatter plot often show a pattern, or _____.

From the pattern or trend you can describe the _____.

Example:
Julie gathered information about her age and height from the markings on the wall in her house.

| Age (years) | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Height (cm) | 70 | 82 | 93 | 98 | 106 | 118 | 127 | 135 |

a)  Label the vertical axis.

b)  Describe the trend in the data.

c)  Describe the relationship.

### Julie's Height vs. Age

## Making Predictions

Use your line of best fit to estimate the following:

| Question | Answer | Method of Prediction |
|---|---|---|
| How tall was Julie when she was 5 years old? | | |
| How tall will Julie be when she is 9 years old? | | |
| How old was Julie at 100 cm tall? | | |
| How tall was Julie when she was born? | | |

### Interpolate

When you interpolate, you are making a prediction _____ the data.

These predictions are usually _____.

Hint:
You are interpolating when the value you are finding is somewhere between the first point and the last point.

### Extrapolate

When you extrapolate, you are making a prediction _____ the data.

It often requires you to _____ the line.

These predictions are less reliable.

You are extrapolating when the value you are finding is before the first point or after the last point. This means you may need to extend the line.

**ACTION**

# A Mathematical Spelling Bee

Welcome to the Mathematical Spelling B.

In this activity, you will type the the given word as many times as you can within a 15 second time limit.

Once completed, you will only count the correctly spelled words and record the data in a table.

Remember that the words are case sensitive and you must type exactly as displayed.

notes

# HYPOTHESIS

Before you begin: What is your hypothesis on the relationship between the length of a word and how many words you can type

Fill out the table below with the data you acquired from the Mathematical Spelling Bee game.

| Word | Word Length | Number of Words Written |
|---|---|---|
| RUN | | |
| RATE | | |
| VALUE | | |
| CHANGE | | |
| INITIAL | | |
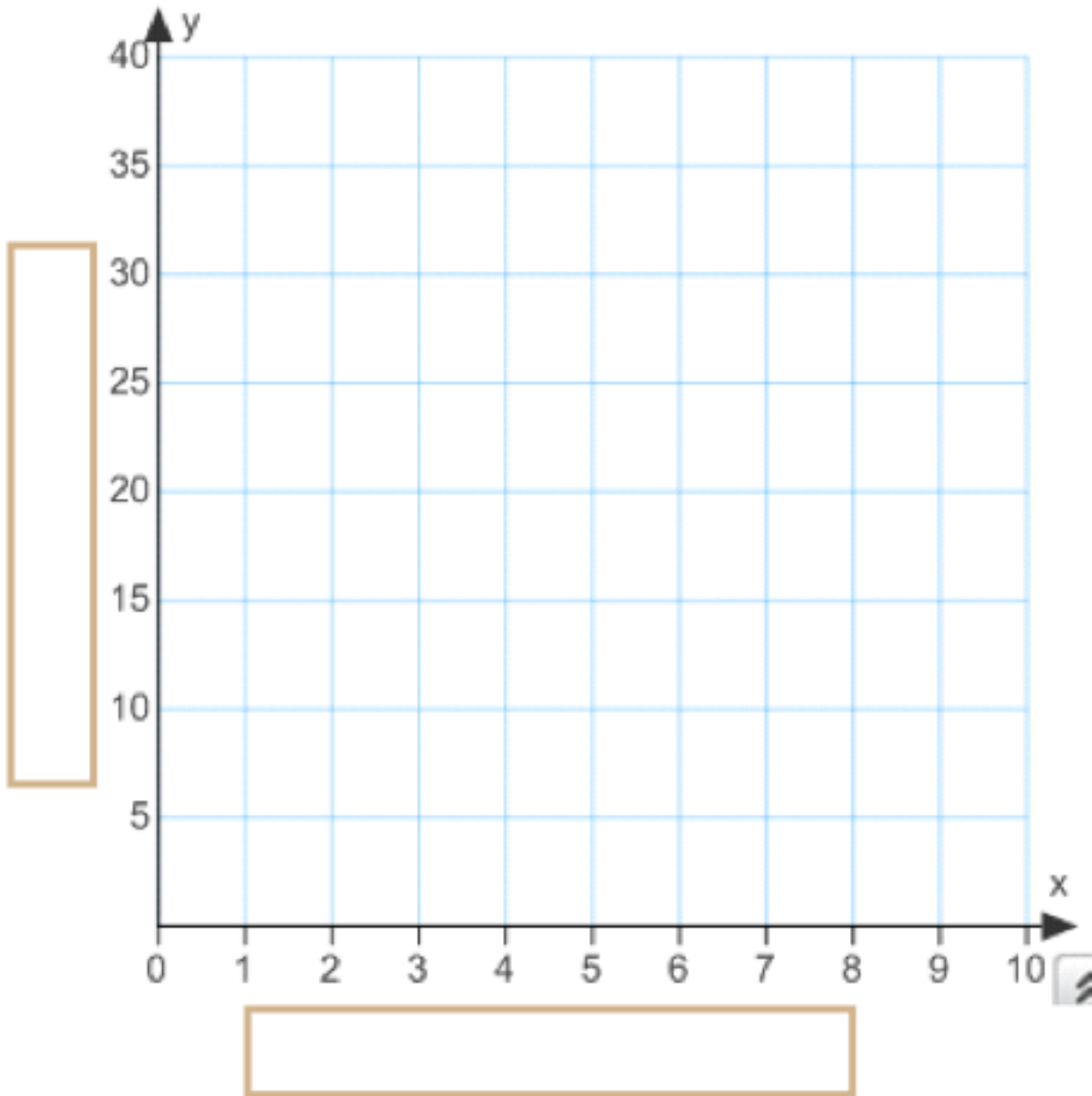
1. What is the independent variable?
2. What is the dependent variable?
3. Describe the correlation of your graphical model.
4. How many 2-letter words can you type in 15 seconds? What prediction method did you use?
5. How many 9-letter words can you type in 15 seconds?
6. What is the largest size word you can type in 15 seconds? Explain. Label this point on the graph.
7. How would the graph look like of a person who types slow? Draw this on the graph using a dashed line.
8. How would the graph look like of a person who types faster than you? Draw this on the graph using a dotted line.

# Tool 3.3 Carousel of Relationships
MPM1D1: Principles of Mathematics
*http://www.dpcdsb.org/AMBRO*
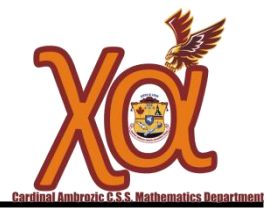
## Investigation 1: The Ball Bounce

### Purpose
To determine if there is a relationship between the drop height of a ball and its rebound height.

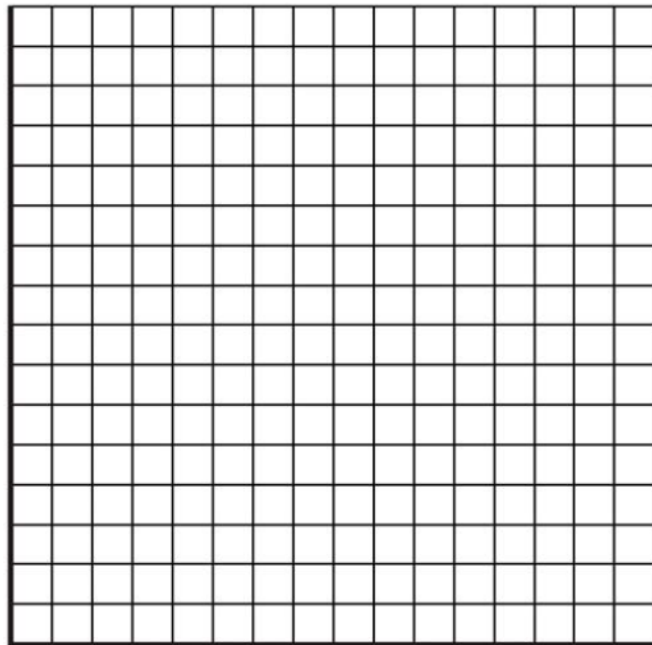### Hypothesis
I think that as the drop height increases, the rebound height _____ because…

_____

### Procedure
- Attach measuring tape to the wall so you can measure the heights.
- Drop the ball from various heights and record the rebound height.
- Always drop the ball so that the bottom of the ball is just over the drop height.

### Models

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### Conclusion
- Describe the relationship in your own words



- Was your hypothesis correct?



- Describe any factors that may have affected your results.

**Answer the questions for your investigation.**

1.  Use your graph to determine the rebound height if the ball was dropped from a height of 120 cm.
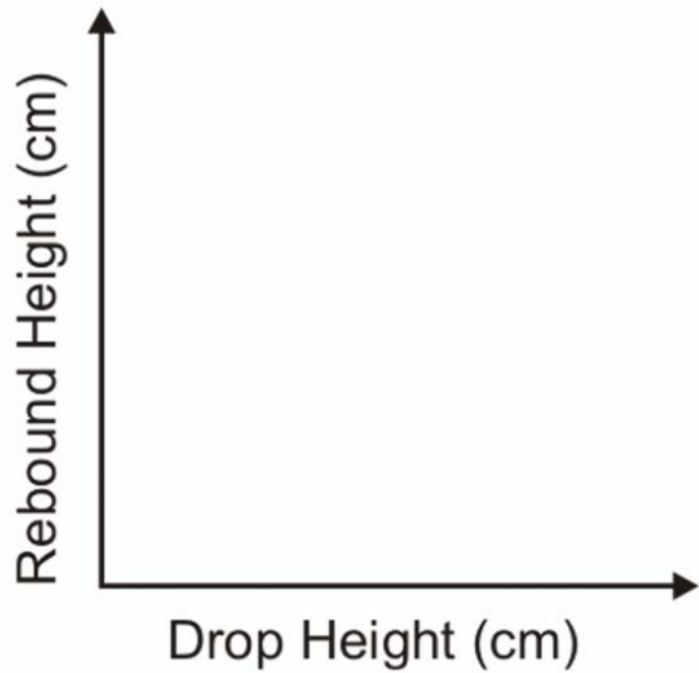
2.  How high was the ball dropped from if it rebounded 40 cm?

3.  Sketch the line of best fit for your ball on the graph below. Sketch and label a new line representing a:

    a)  super ball (more bouncy)

    b)  beach ball (less bouncy)

    Give reasons for your answers.

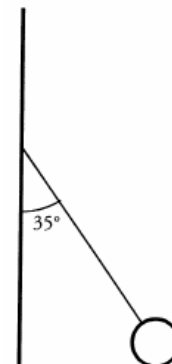# Tool 3.3 Carousel of Relationships

MPM1D1: Principles of Mathematics
*http://www.dpcdsb.org/AMBRO*

## Investigation 2: Pendulum Swing

### Purpose

To determine if there is a relationship between the mass of the swinging object and the time it takes for it to make five complete swings.
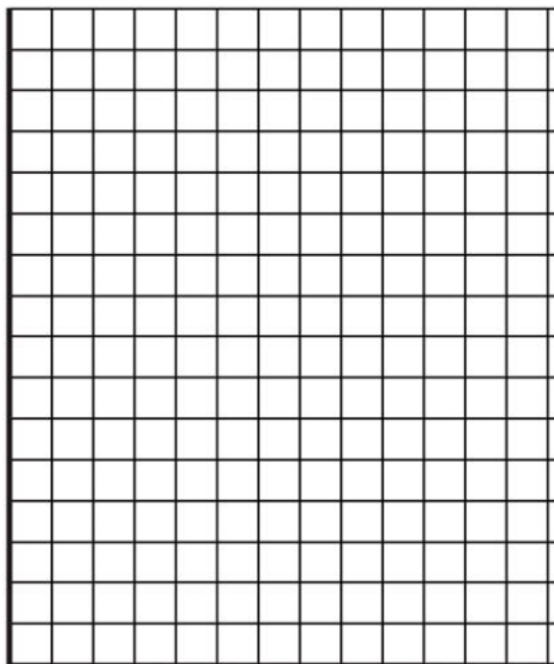
### Hypothesis

I think that as the mass increases, the time to complete five swings will _____ because…

_____

### Procedure

- Attach one weight (paper clip) to end of the pendulum string.
- Release the pendulum from a 35° angle and start the timer.
- Measure and record the length of time for five complete swings.
- Repeat, after increasing the mass at the end of the pendulum by one paper clip each

### Models

### Conclusion

- Describe the relationship in your own words


- Was your hypothesis correct?


- Describe any factors that may have affected your results.

**Answer the questions for your investigation.**

1.      What do you notice that is different about this graph than the others?

2.      Use your graph to find the length of time it takes if 8 paper clips are used.

# Tool 3.3 Carousel of Relationships

MPM1D1: Principles of Mathematics

## Investigation 3: Cylinder Size

### Purpose

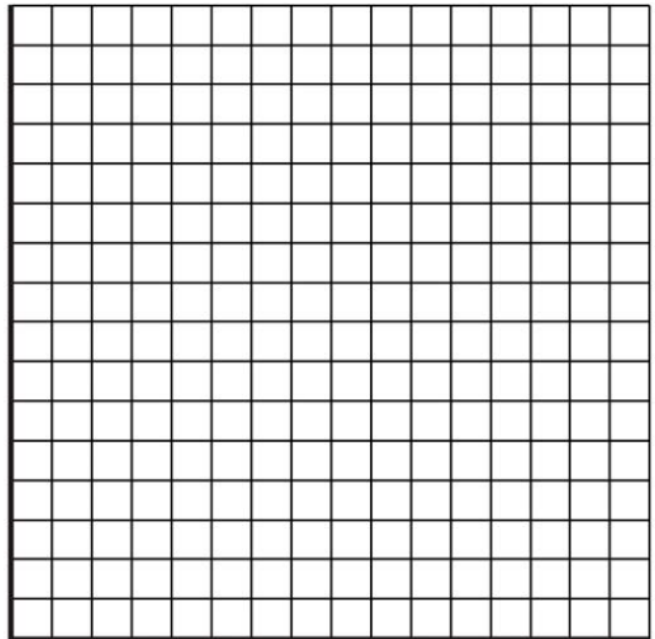To determine if there is a relationship between the height of various cylindrical containers and their diameter.

### Hypothesis

I think that as the height increases, the diameter _____ because…

_____

### Procedure

Measure and record the height and the diameter of the cylinders.

### Models

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### Conclusion

- Describe the relationship in your own words

- Was your hypothesis correct?

- Describe any factors that may have affected your results.

- Going Further: Do you think there would be a relationship between the diameter and the circumference of the cylinder? Explain.

## Investigation 4: Bag Stretch

### Purpose
To determine if there is a relationship between the height of a bag suspended
by elastics over the floor and the number of books in the bag.

### Hypothesis
I think that as the number of books increases, the distance of the bag from the floor

_____because…_____

### Procedure
- Hang the shopping bag from elastics so that the bottom is about 1 m above the floor.
- Measure and record the distance from the bottom of the bag to the floor.
- Add one book to the bag. Measure and record the distance from the bottom of the bag to the floor.
- Repeat, adding one book at a time until all the books are in the bag.

### Models
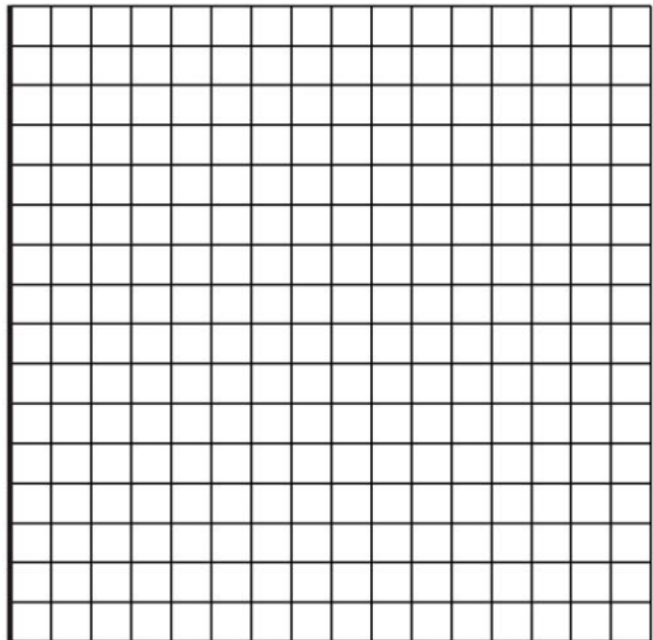
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### Conclusion
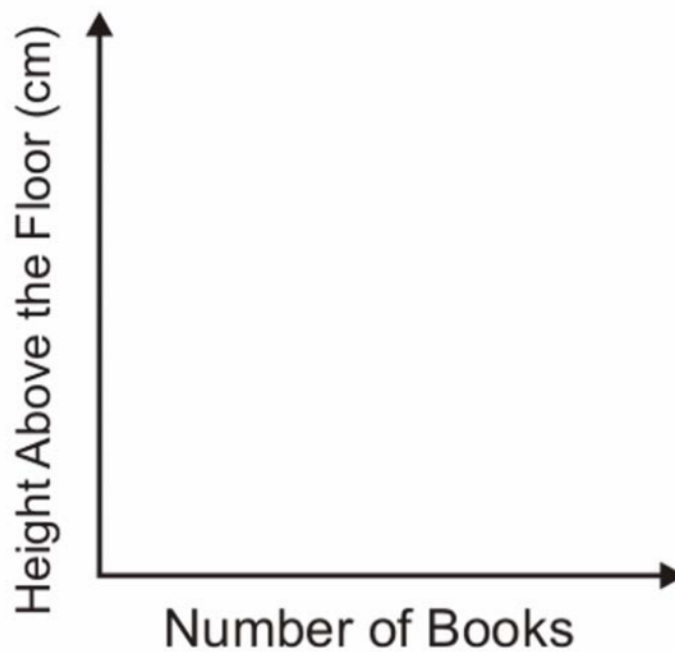- Describe the relationship in your own words

- Was your hypothesis correct?

- Describe any factors that may have affected your results.

## Going Further: Investigation 4 – Bag Stretch
**Answer the questions for your investigation.**

1.     How many books will it take for the bag to touch the floor?

2.     If a stretchier rubber band was used, how would this affect the graph?  Sketch the line of best fit for your investigation on the graph below. Sketch and label a new line representing a stretchier rubber band.

       Give reasons for your answer.

# Tool 3.3 Carousel of Relationships
MPM1D1: Principles of Mathematics
*http://www.dpcdsb.org/AMBRO*

## Investigation 5: Water Drain

### Purpose
To determine if there is a relationship between the height of water in a container and the time it takes to drain the container.
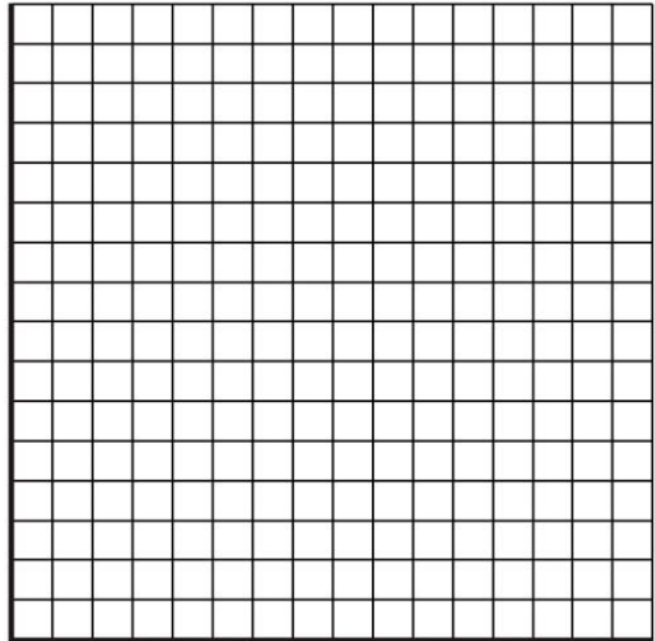
### Hypothesis
I think that as time increases, the height of the water in the container _____

because…_____

### Procedure
- Fill the bottle with water up to the point where the container slopes towards the top.
- Record the height of the water in the bottle.
- When your timer is ready, poke a hole in the bottom and top of the bottle.
- Record the height of water every 20 seconds until the water is past the cylindrical part of the bottle.

### Models

| | |
|---|---|
| | |
| | |
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| | |
| | |
| | |
| | |
| | |

### Conclusion
- Describe the relationship in your own words


- Was your hypothesis correct?


- Describe any factors that may have affected your results.

Answer the questions for your investigation.

1.      How long would it take for the water to drain completely from the bottle?

2.      Estimate the height of the water after 30 seconds.

3.      If the container had a larger diameter, but was still the same height, how would this affect the graph if the hole in the bottom stayed the same?  Sketch the line or curve of best fit for your investigation on the graph below. Sketch and label a new line or curve representing a container with a larger diameter.

        Give reasons for your answer.
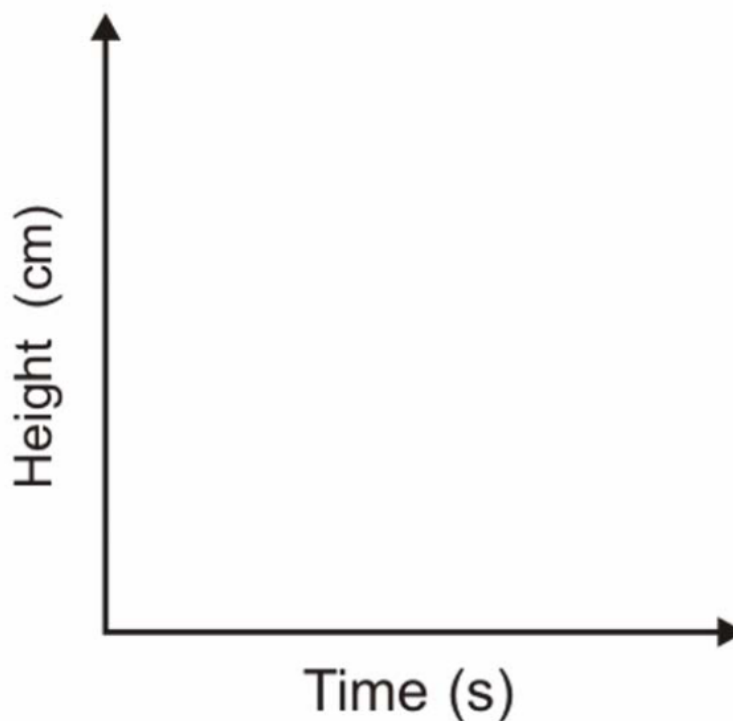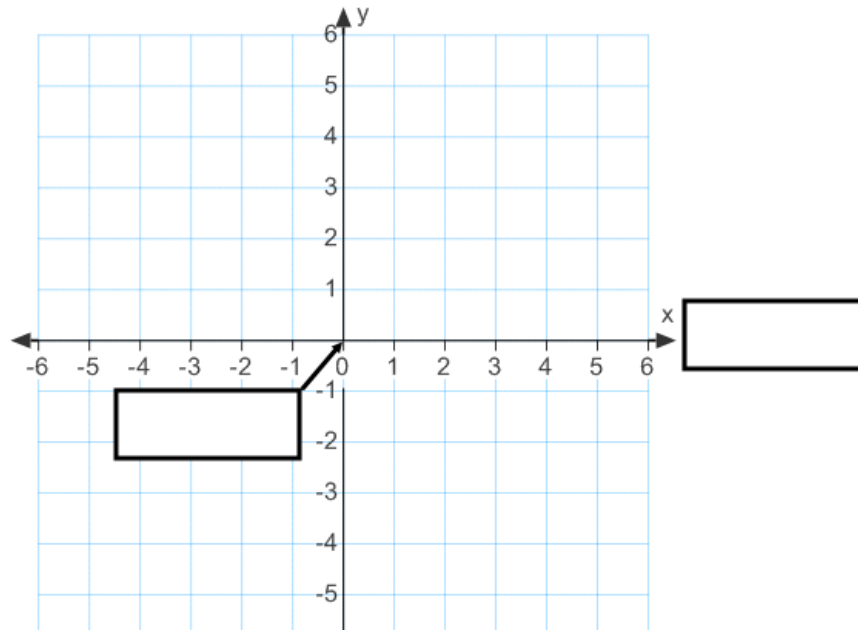
Height (cm)

Time (s)

## MINDS ON

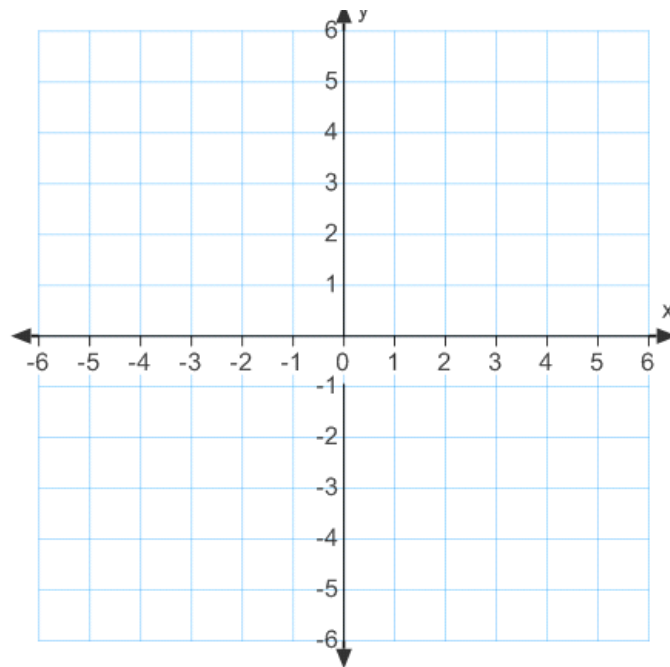### Cartesian Plane
Label the parts of the grid.

origin

x-axis

y-axis

### Plotting Points
Plot the following points on the grid provided.

- A(2,1)
- B(3,6)
- C(-2,0)

- D(0,5)
- E(4,0)
- F(0,1)

What do you notice about the points on the y-axis?

What are these points called?

If we know where y-intercepts are, where do you think x-intercepts will be?

What are the x-intercepts?

What do you notice about the points on the x-axis?

**ACTION**

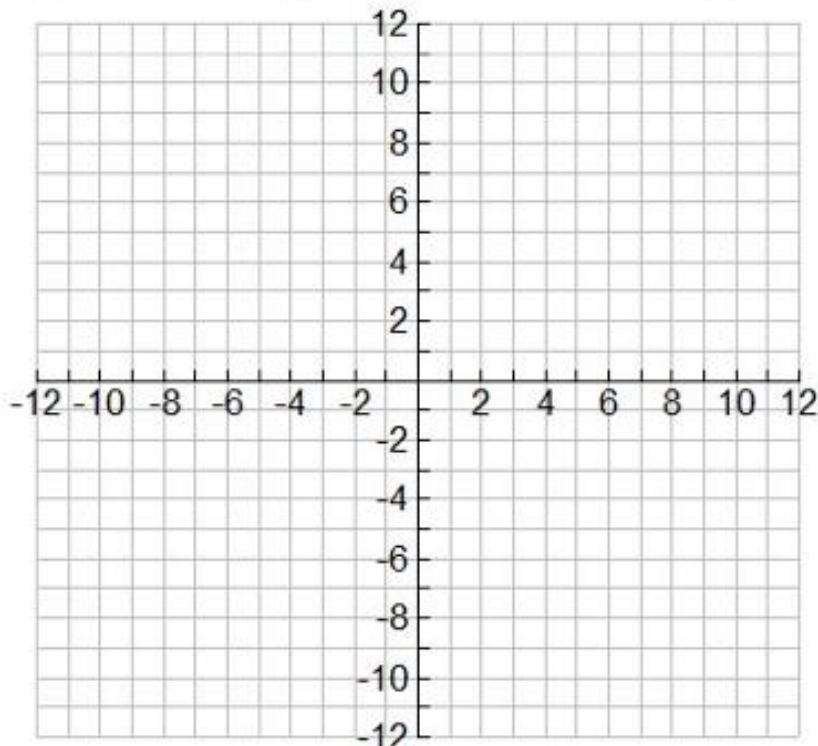The Common Murre is a deep diving sea bird that can dive to depths of below 200 m.

Ten seconds ago a Murre was flying at an altitude of 7 m. Nine seconds ago the murre was 5 m above sea level.

a) If the murre rate is constant, complete the table of values up to 10 seconds from now.

| X | Y |
|---|---|
|   |   |
|   |   |
|   |   |
|   |   |
|   |   |
|   |   |
|   |   |

b) Draw a scatter plot of the relation. How deep will the Murre be in 20 seconds?

c) Calculate how deep the Murre dives after every second. This is called the FIRST DIFFERENCE.
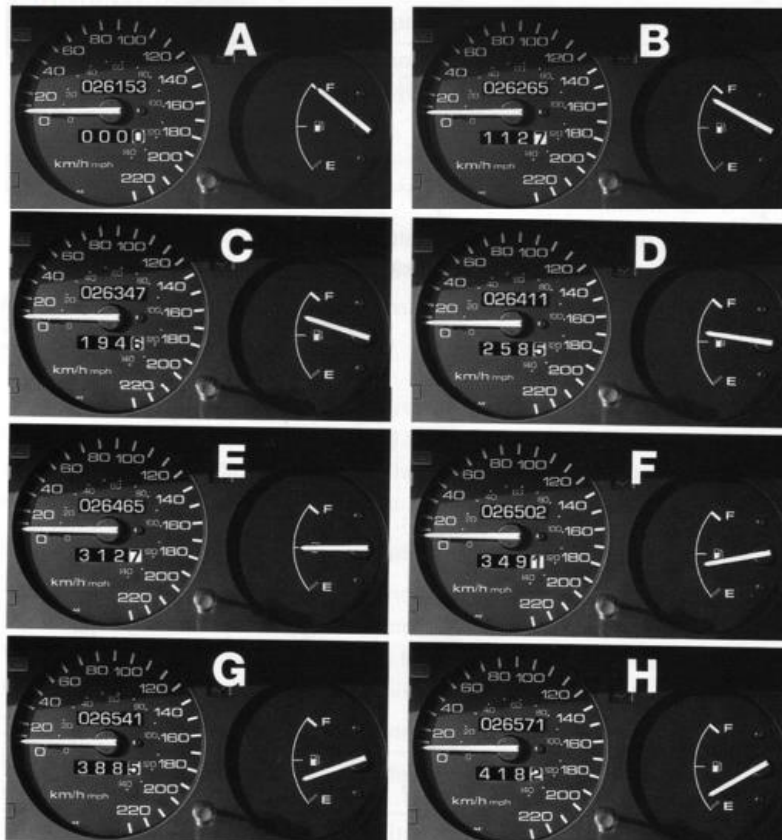
| X | Y | First Difference |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

d) What do you notice about the first differences?
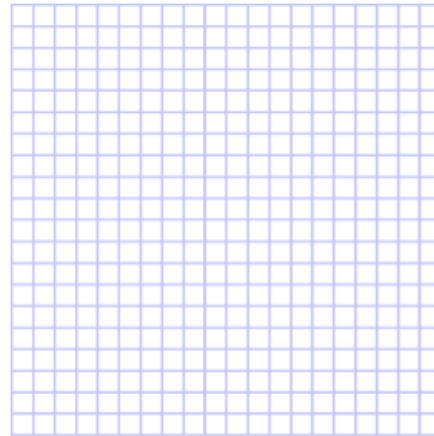
e) What type of relationship is this data?

## ACTION

Every time a person buys gasoline, the trip odometer is reset to 000. The photographs show the odometer readings and the fuel gauge at different times since the last fill up. Is the fuel gauge giving accurate readings?

a) Compete the table of values below and create a graphical model of the relationship.

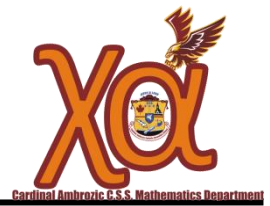| X | Y | First Difference |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

b) How far can you drive on a full tank?

c) What do you notice about the first differences? What type of relationship is the graph?

d) Compare the first differences from the first Murre problem to the Gasoline problem. What can you summarize?

## Problems

### Problem 1

**A.** Jody works at a factory that produces square tiles for bathrooms and kitchens. She helps determine shipping costs by calculating the perimeter of each tile.
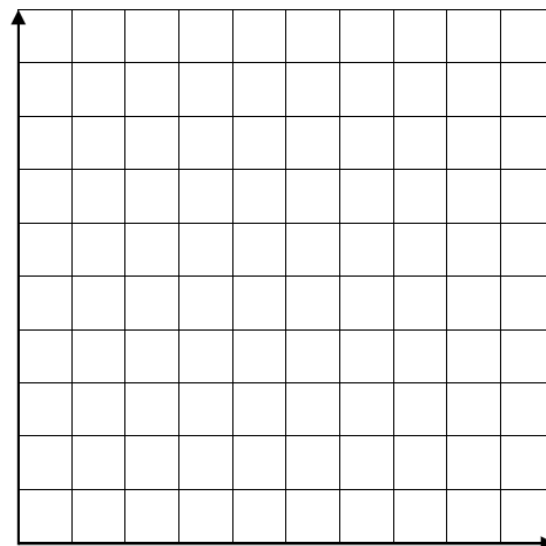
i) **Calculate** the perimeter and record your answers in the Perimeter column of the table.

| Side Length (cm) | Perimeter (cm) | First Differences |
|---|---|---|
| 1 | | |
| 2 | | |
| 3 | | |
| 4 | | |
| 5 | | |

ii) **Describe** what happens to the perimeter of each tile when the side length increases by one centimetre. _____

iii) **Construct** a graph of the perimeter vs. the side length. Include labels and titles.
   a) Which variable is the independent variable?

   b) Which variable is the dependent variable?

   c) Use the graph to describe the relationship between the perimeter and side length of a tile.

   d) Describe the shape of the graph.

iv) **Calculate** the first differences in the First Differences column of the table. What do you notice about the first differences?

v) **Summarize** your observations.
   a) When the side length increases by one centimetre, the perimeter increases by _____.

   b) The plotted points suggest a...

   c) The first differences are...

**B.** Jody is paid $8.50/hour to calculate perimeters.

    i)   **Calculate** her pay and record your answers in the Pay column of the table.

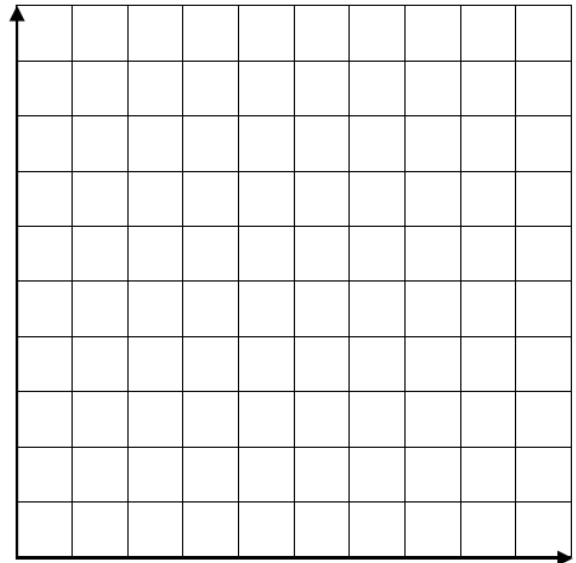| Number of Hours | Pay ($) | First Differences |
|:---:|:---:|:---:|
| 1 | | |
| 2 | | |
| 3 | | |
| 4 | | |
| 5 | | |

    ii)   **Describe** what happens to her pay when the number of hours she works increases by one hour. _____

    iii)  **Construct** a graph of her pay vs. the number of hours she works. Include labels and titles.
        a)  Which variable is the independent variable?

        b)  Which variable is the dependent variable?

        c)  Use the graph to describe the relationship between her pay and the number of hours she works.

        d)  Describe the shape of the graph.

    iv)  **Calculate** the first differences in the First Differences column of the table. What do you notice about the first differences?

    v)   **Summarize** your observations.
        a)  When the number of hours worked increases by one, the pay increases by _____.

        b)  The plotted points suggest a…

        c)  The first differences are…

**C.** Raj, another employee at the factory, also works with the tiles. He helps to determine the shipping costs by calculating the area of each tile.

i) **Calculate** the area and record your answers in the Area column of the table.

| Length of sides (cm) | Area (cm$^2$) | First Differences |
|---|---|---|
| 1 | | |
| 2 | | |
| 3 | | |
| 4 | | |
| 5 | | |

ii) **Describe** what happens to the area of each tile when the side length of a tile increases by one centimetre. _____

iii) **Construct** a graph of the area vs. the length of the sides of the tiles. Include labels and titles.
   a) Which variable is the independent variable?

   b) Which variable is the dependent variable?

   c) Use the graph to describe the relationship between the area and the side length of the tile.

   d) Describe the shape of the graph.
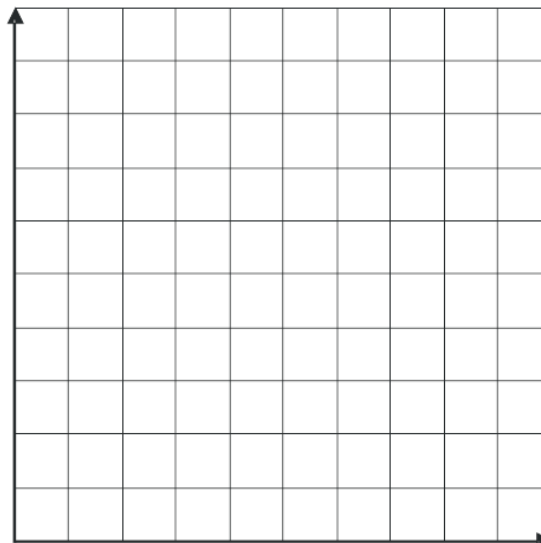
iv) **Calculate** the first differences in the First Differences column of the table. What do you notice about the first differences?

v) **Summarize** your observations.
   a) When the side length increases by one centimetre, the area increases by _____.

   b) The plotted points suggest a…

   c) The first differences are…

## Deep Sea Divers

The table below shows data collected as divers descend below sea level. Calculate the first differences. Use the first differences to determine if the relationship is linear or non-linear. Check your solution by graphing. Include labels and titles.

| Time (min) | Depth (m) | First Differences |
|---|---|---|
| 0 | -2 | |
| 1 | -4 | |
| 2 | -6 | |
| 3 | -8 | |
| 4 | -10 | |

The relationship is:
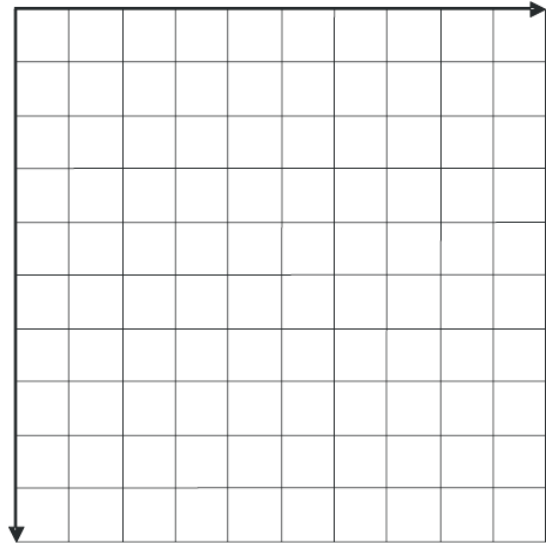
## Hot Air Ballooning

The table shows data collected as a hot air balloon leaves the ground. Calculate the first differences. Use the first differences to determine if the relationship is linear or non-linear. Check your solution by graphing. Include labels and titles.

| Time (sec) | Height (m) | First Differences |
|---|---|---|
| 0 | 2 | |
| 1 | 4 | |
| 2 | 6 | |
| 3 | 8 | |
| 4 | 10 | |

The relationship is:
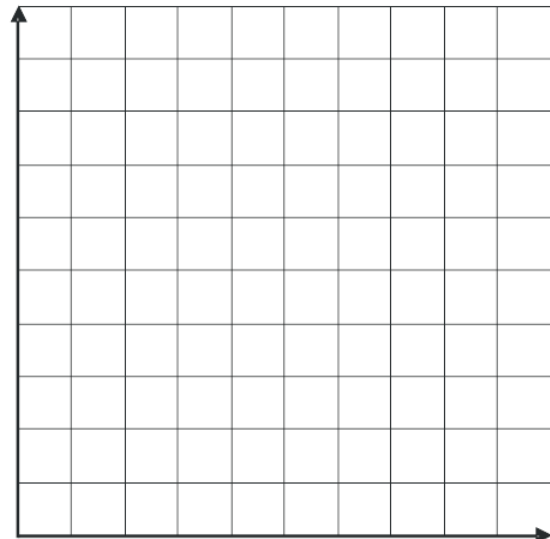
## 1.R  Reflecting on My Learning (3, 2, 1)

**3** Things I know well from this unit

**2** Things I need explained more

**1** Question I still have

# 1.RLS: Reflecting on Learning Skills

Students should be aware of the importance that these skills have on your performance. After receiving your marked assessment, answer the following questions. Be honest with yourself. Good Learning Skills will help you now, in other courses and in the future.

E – Always
G – Sometimes
S – Need Improvement
N – Never

## Organization
E G S N    I came prepared for class with all materials
E G S N    My work is submitted on time
E G S N    I keep my notebook organized.

## Work Habits
E G S N    I attempt all of my homework
E G S N    I use my class time efficiently
E G S N    I limit my talking to the math topic on hand
E G S N    I am on time
E G S N    If I am away, I ask someone what I missed,
E G S N    I complete the work from the day that I missed.

## Team Work
E G S N    I am an active participant in pairs/group work
E G S N    I co-operate with others within my group
E G S N    I respect the opinions of others

## Initiative
E G S N    I participate in class discussion/lessons
E G S N    When I have difficulty I seek extra help
E G S N    After I resolve my difficulties, I reattempt the problem
E G S N    I review the daily lesson/ideas/concepts

## Works Independently
E G S N    I attempt the work on my own
E G S N    I try before seeking help
E G S N    If I have difficulties I ask others but I stay on task
E G S N    I am committed to tasks at hand

Yes No    I know all the different ways available in my school, where I can seek extra help.

Yes No    I tried my best.

What will I do differently in the next unit to improve?

_____
_____
_____
_____