Grade 10
Measurements and Analytical Geometry

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DATE: 14 February 2023

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DIE VERANDERING IN ONDERWYS
THE CHANGE IN EDUCATION

Measurement – Meaning in Life

- **Measure of educational achievement, intelligence, interest, abilities . . .**

- **Measuring weight, height, distance, ...**

Measurement – Meaning in Mathematics

- Measurement quantifies the characteristics of an object or event, which we can compare with other things or events

Measurement

DO – TALK – RECORD

DO – Start an activity for learners with minimal input
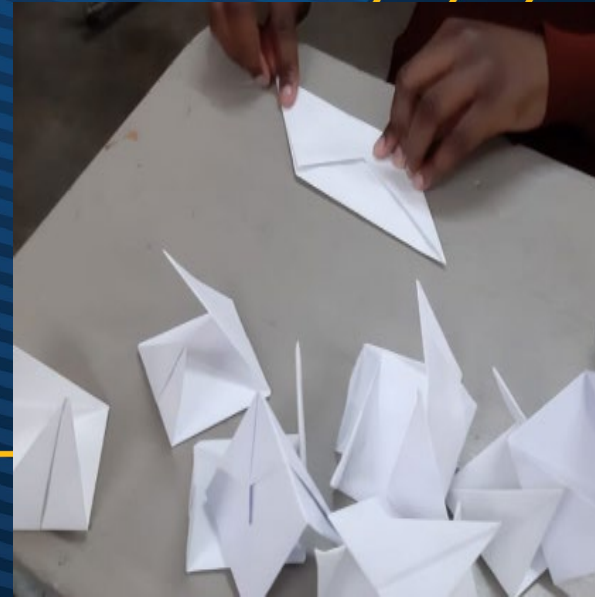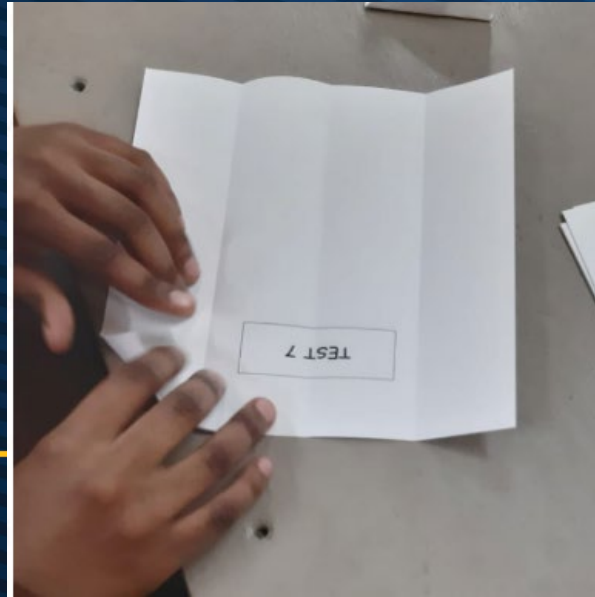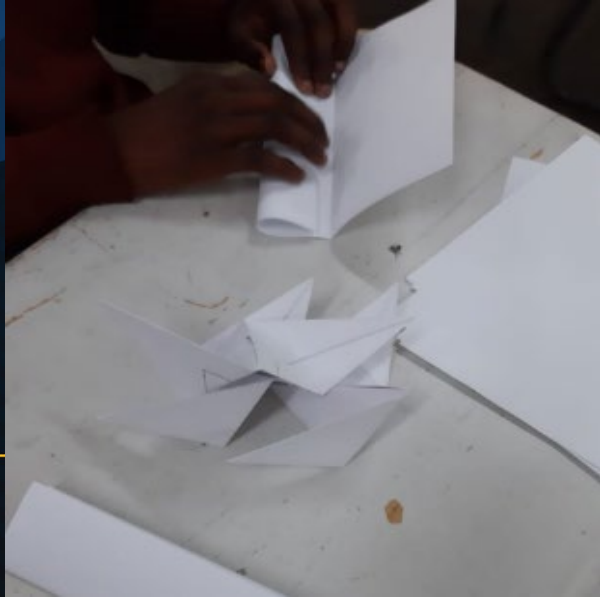
Measurement

DO – TALK – RECORD

DO – Change a square into a parallelogram

Measurement

DO – TALK – RECORD

DO – Change a square into a parallelogram

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Measurement

DO – TALK – RECORD

DO – The final product

Measurement

DO – TALK – RECORD

TALK

- Mathematical communication
- Learners share their thoughts (pairs)
- Working in small groups (fours)
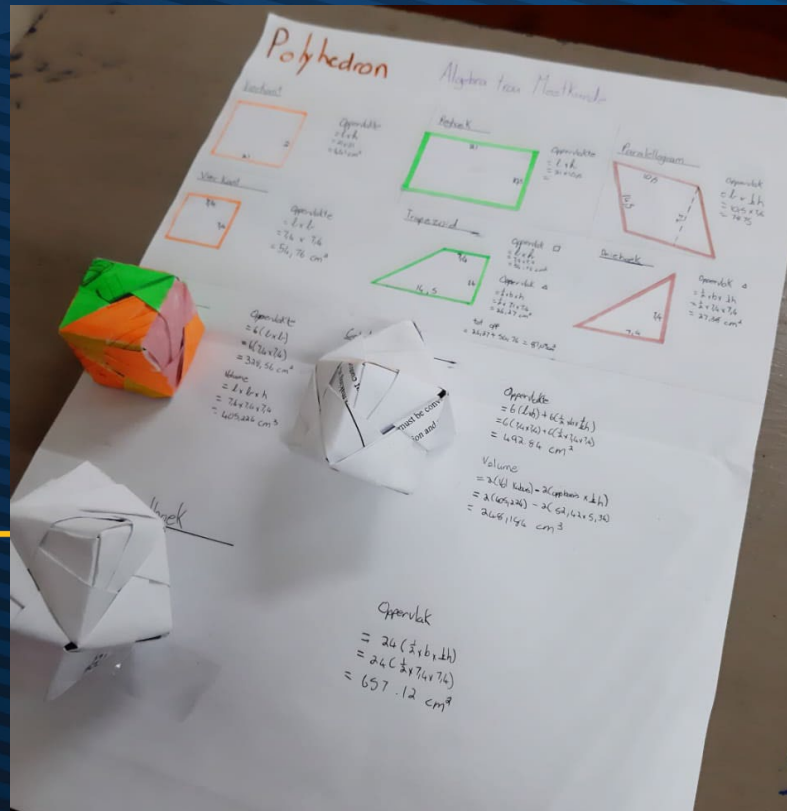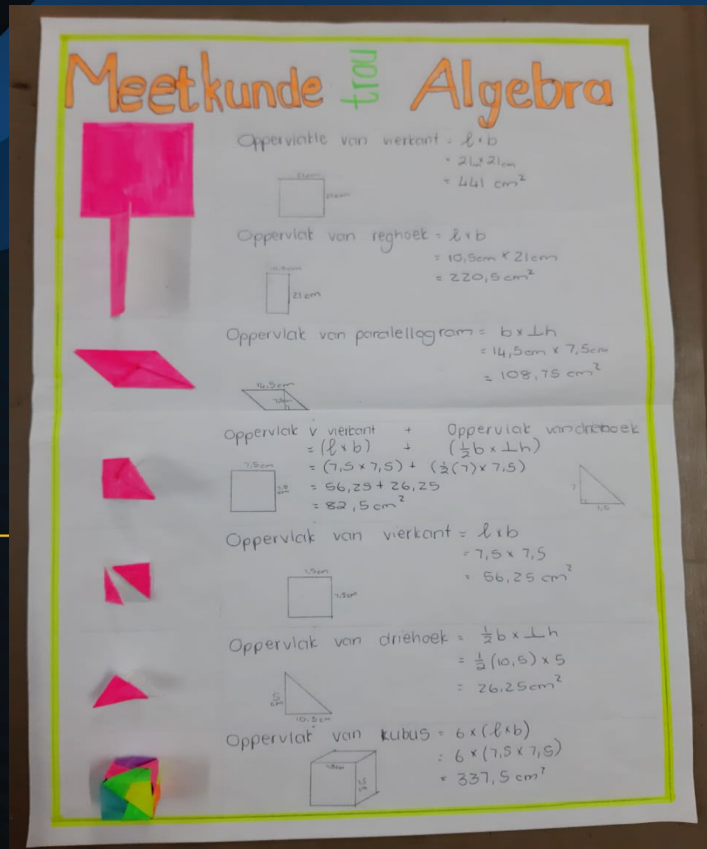- Share their findings with class (more)

Measurement

DO – TALK – RECORD
RECORD – Write down the outcomes

Building a cube

Practical application using the 1 – 2 – 4 – many approach

Calculations

Requirements

Building a cube

Practical application using the 1 – 2 – 4 – many approach
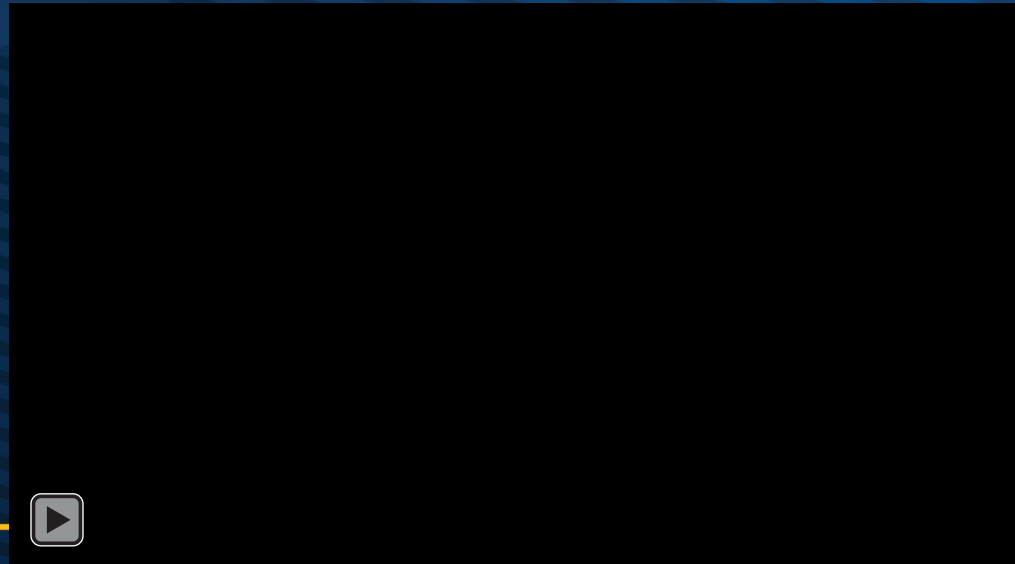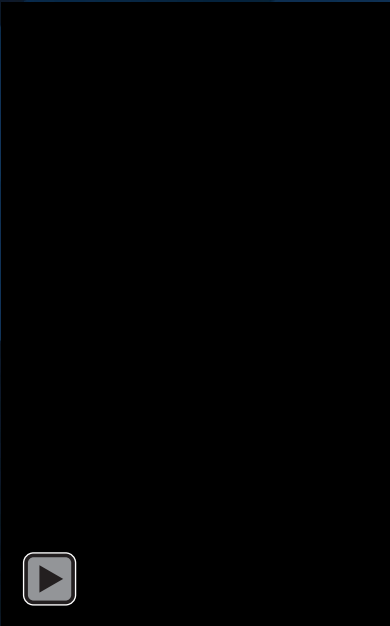

Determine Space

Measure Student

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Building a cube

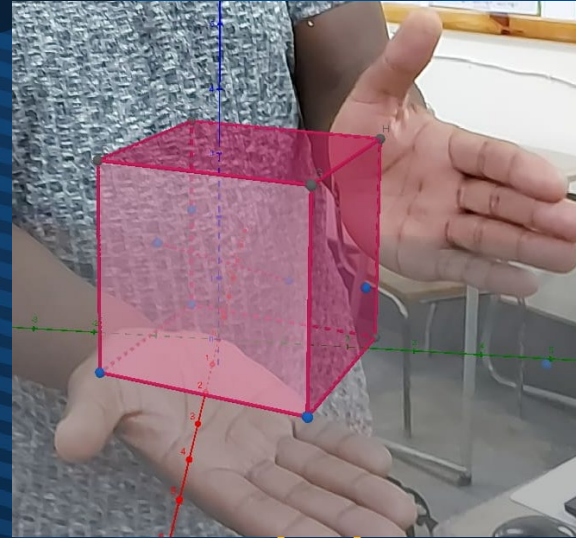# Practical application using the 1 – 2 – 4 – many approach

Two sharing
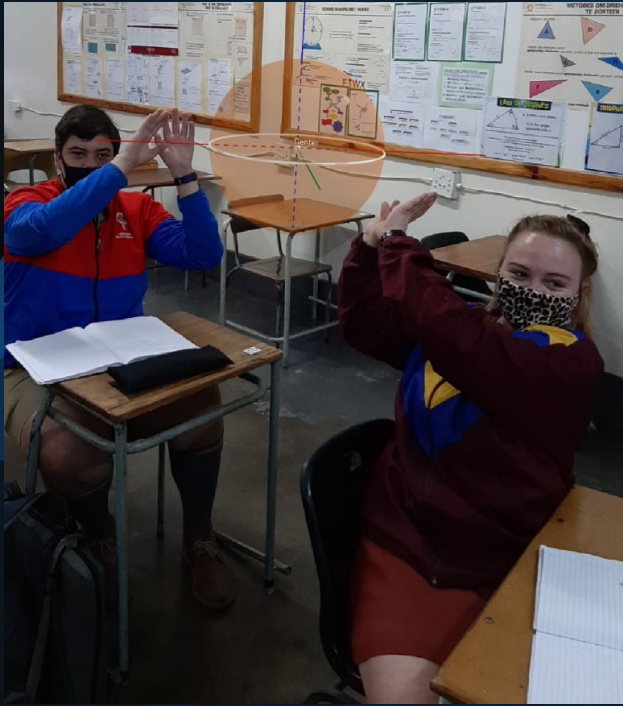
Four are collaborating

Building a cube
Practical application using the 1 – 2 – 4 – more approach

Measurement with Technology Using GeoGebra 3D

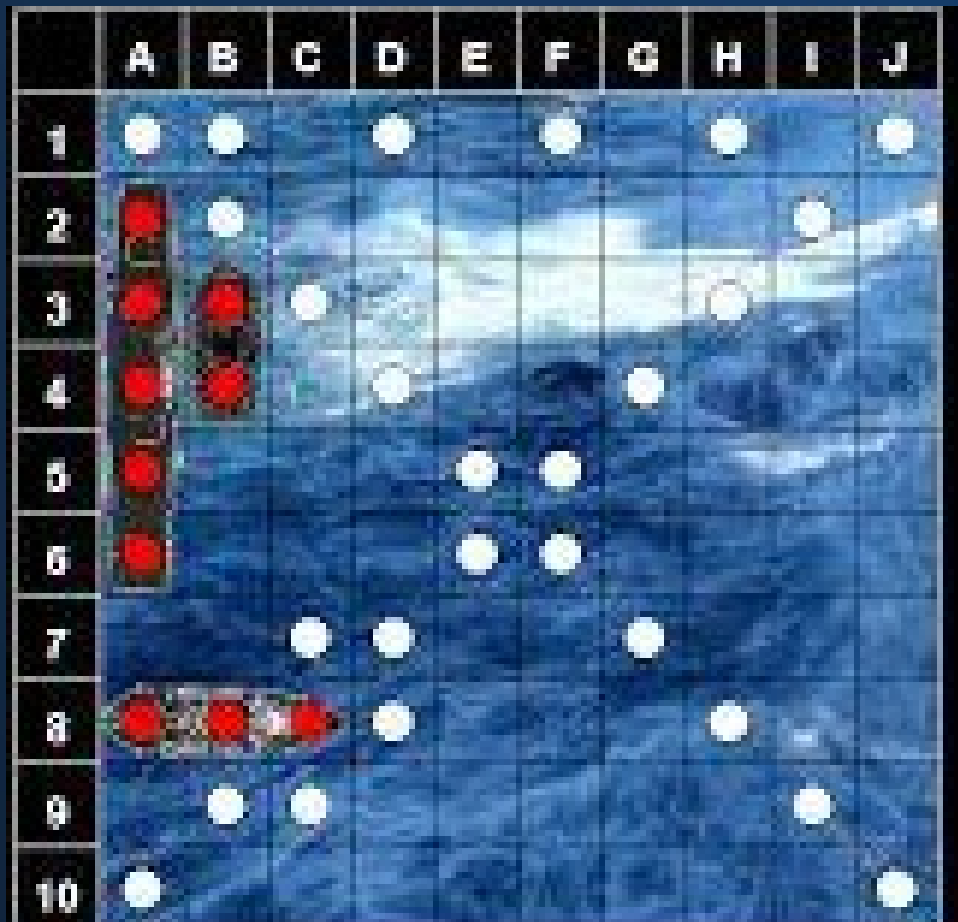**Creating the AR reality**

Analytical Geometry

MOVIE
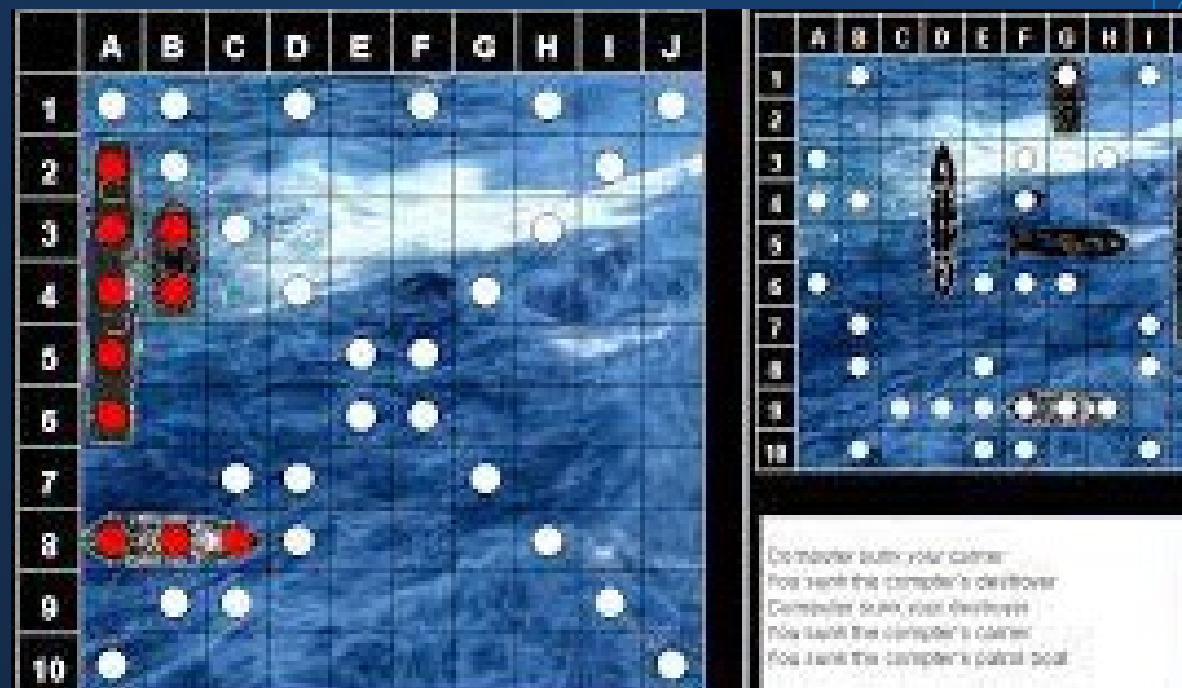
Board game

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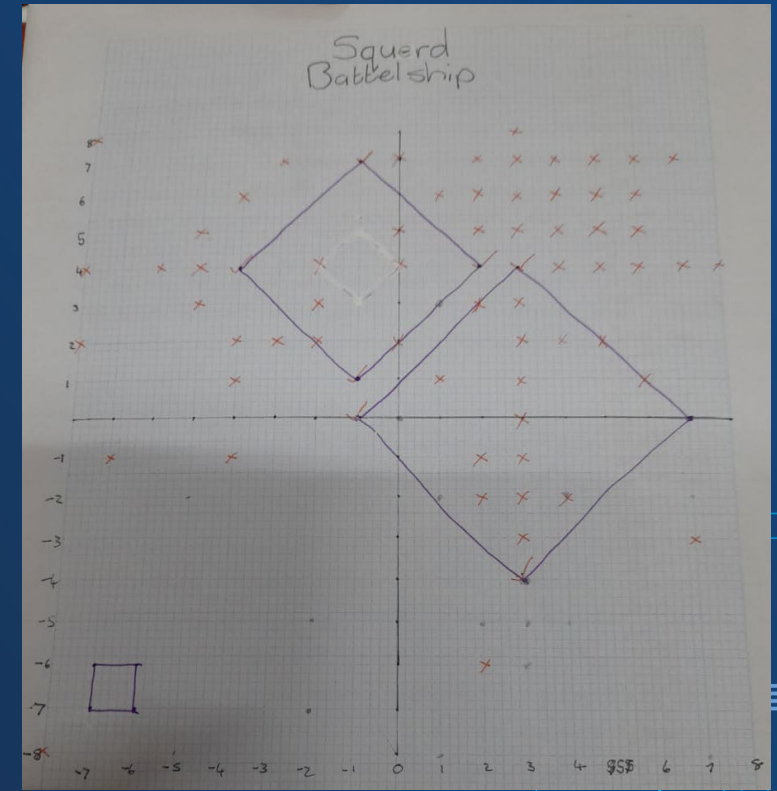# Analytical Geometry
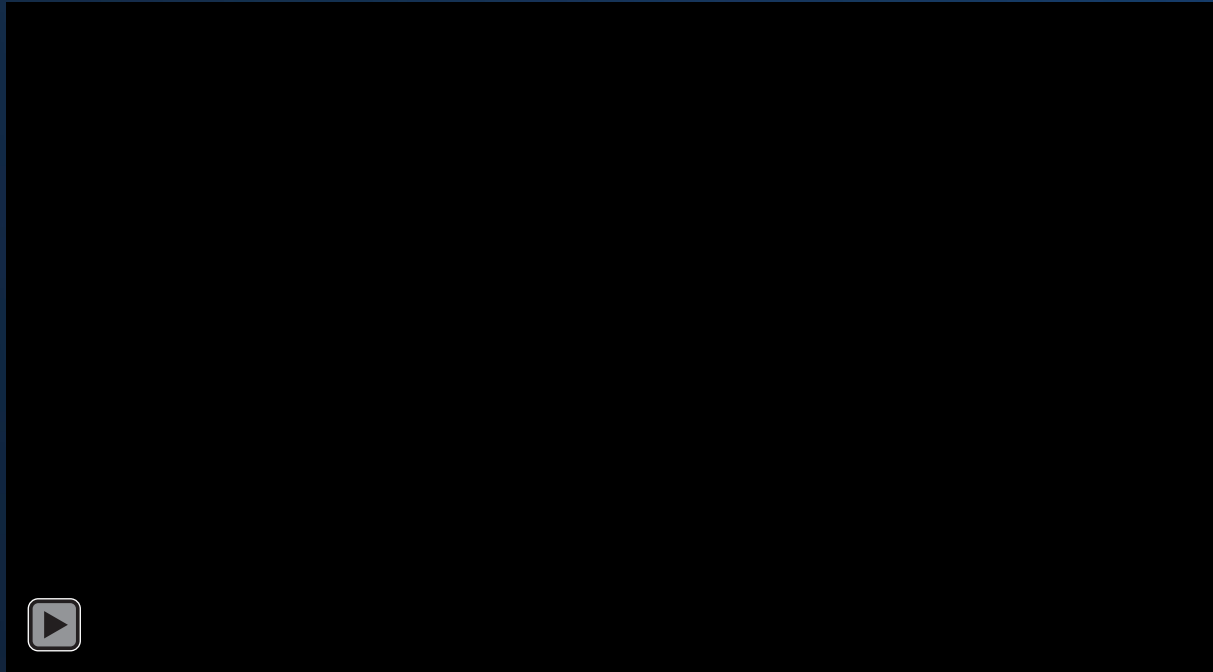
Analytical Geometry

Analytical Geometry

Squared Battleship – what will be discovered

- Mathematical communication
- Correct reading of coordinates
- Finding distance
- Discover gradients
- Discovering angles (used later in grade 11 – angle of inclination)

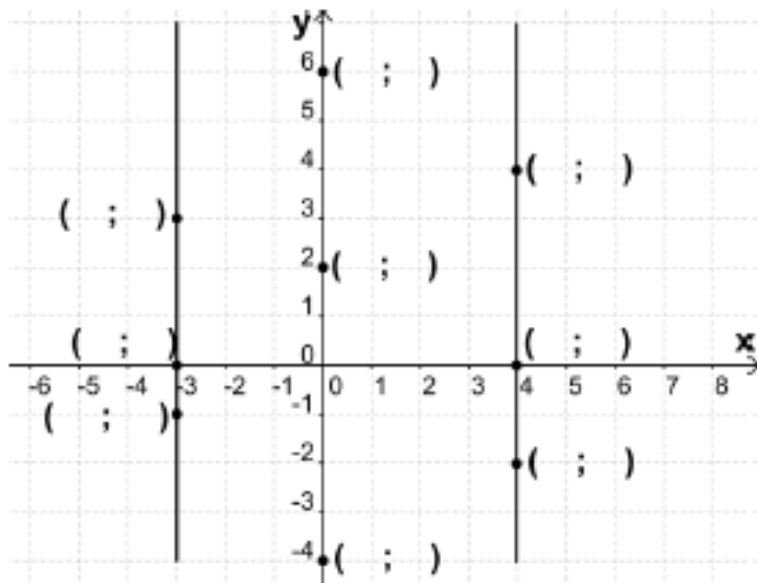# Analytical Geometry

Squared Battleship the game
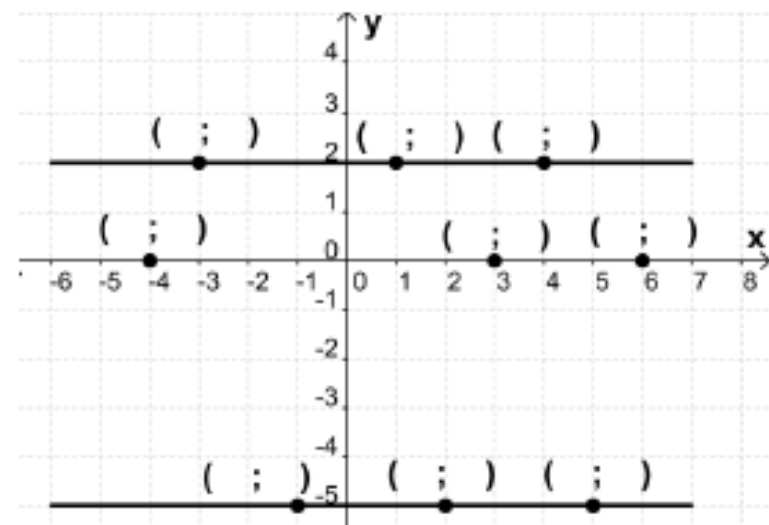
Analytical Geometry
Using new found knowledge

1. Fill in the missing coordinates:

1.1

1.2

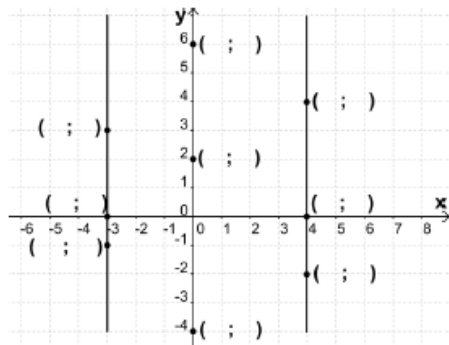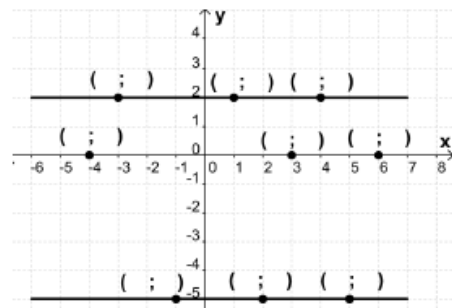**1.3** What did you notice?

Analytical Geometry
Using new found knowledge

1. Fill in the missing coordinates:

1.1

1.2

1.3 What did you notice?

Find coordinates
Determine gradient
Determinee distance
Determine midpoints

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Summary

- ✓ **Measurements – discovery from 2D to 3D**

- ✓ **Actual perception of space, volume and area –area can be touched volume not**

- ✓ **The use of technology to generate artificial reality – creating the unseen in the reality**

Summary

- ✓ **Analytical Geometry – using a movie that relate to the topic**

- ✓ **Playing the game opens the field of discovery about relationships**

- ✓ **Mathematical communication and language development**

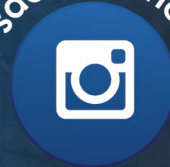- ✓ **Application from practical to theoretical**

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