PLANTSBROOK SCHOOL

A Technology & Music College

LEARNING PLAN

Teacher	Mr O'Connor	Class	Yr 8	Room	E3

Number of Learners		Boys		Girls		Level of Ability	1

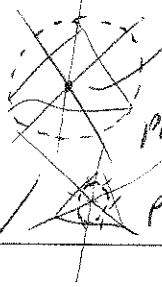
Special Needs/Learning Information: *include information about targets for students with IEPs and Statements:* 1 VI.

Context of Lesson: One off Mini Project. "2 Lessons"

Learning Objective	Learning Outcome (Assessment Opportunity)	Success Criteria What does a good outcome look like?
To be able to construct circular shapes, and discuss the techniques required. Develop an understanding as to why there is a precise method of construction –	Rapid discuss the techniques and develop an appreciation why construction need precise measurements	Description of techniques clear successful completion of circle. All pupils able to inscribe a circle inside a triangle and inscribe a triangle inside a circle.

Starter How many triangles + Optical illusion

Connect Learning/Introduce new learning: This mini project can be used as a lesson in its own right or as a consolidation project.

Receiving Information (Input)	Understanding/Making sense	Review
Very little. To skills a build up via peer discussion and experiment. Feedback from students so other students can compare their solutions. Explanations essential not overall method.	How are the patterns created. What techniques are required. (Discuss with partner) Explain / test Create your own. Experiment with BISECTION. (a) A LINE (b) AN ANGLE	How successful? How accurate. The final two questions encapsulate the students success. If  all lines meet. PERFECT and PERFECT.

What will they have learnt? How will you know?

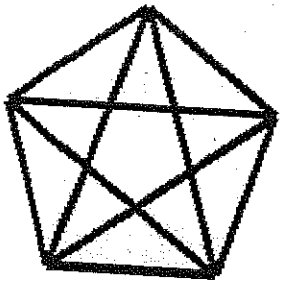
Use of a pair of compasses;
Creating shapes using a pair of compasses
Bisect a line and angle. Inscribe a triangle and Circle.

BOB THE BUILDER

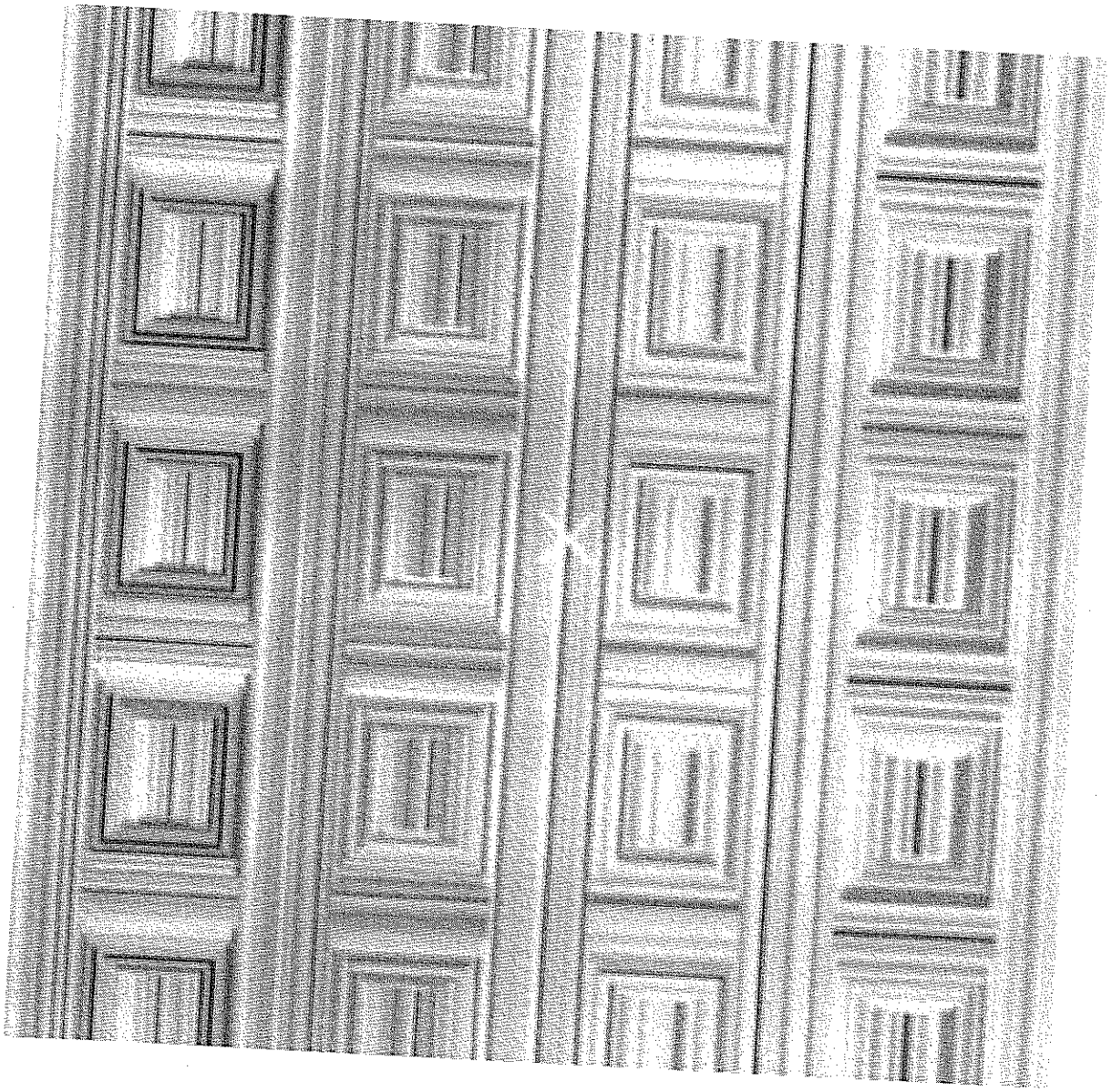
CONSTRUCTION

PROJECT

Take a close look at the following figure... How many triangles can you find?

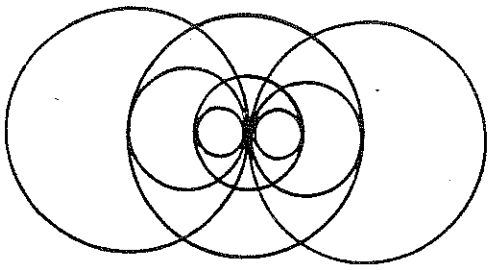


How many circles can you see?



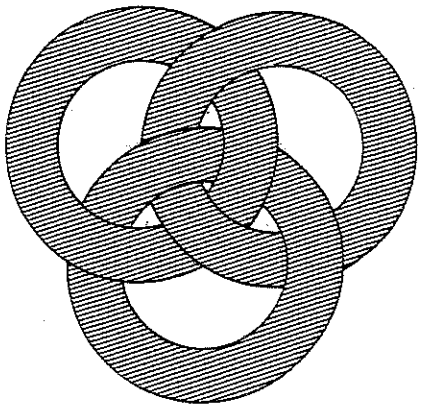
DISCOVER, DISCUSS, DO

This circle pattern is made by drawing circles with a compass.
Which part of the pattern is drawn first? What is drawn next? **Discuss.**
Draw other interesting circle patterns by using your compass. Have your patterns consist of complete circles.



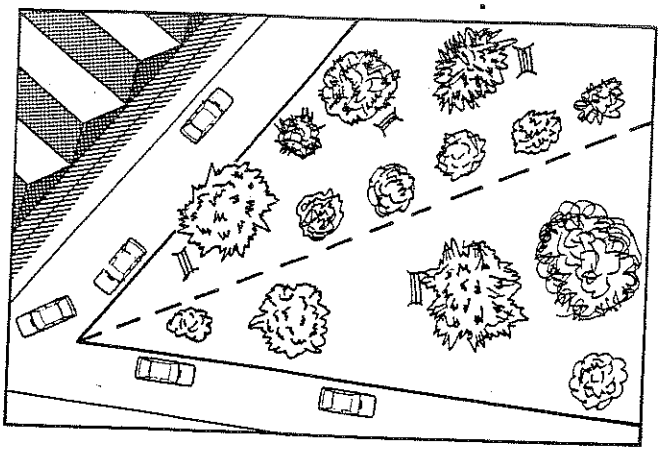
- Choose a circle
- Work out how it is constructed.
- Write a set of instructions that will enable another student to complete the shape.
- Remember they will only have your instructions to follow.
- Now ask your partner to complete the shape!
- How well did they do.....What amendments do you need to make to your instructions?

How is this pattern of interlocking circles made? **Discuss.**



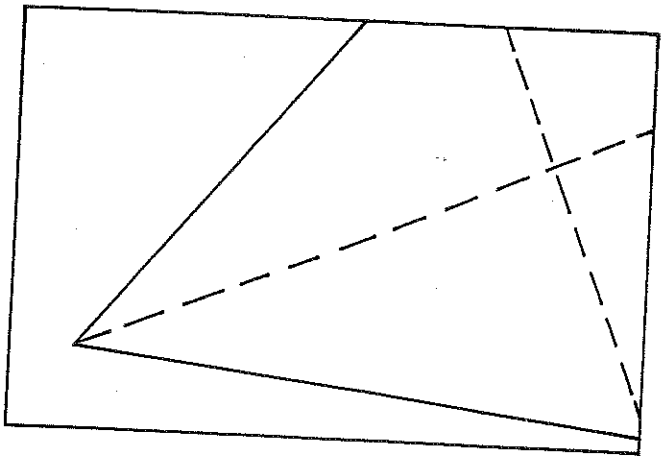
Could you make a similar pattern with four interlocking circles? **Discuss.**

What if the pattern consisted of 5 circles?
What if . . .



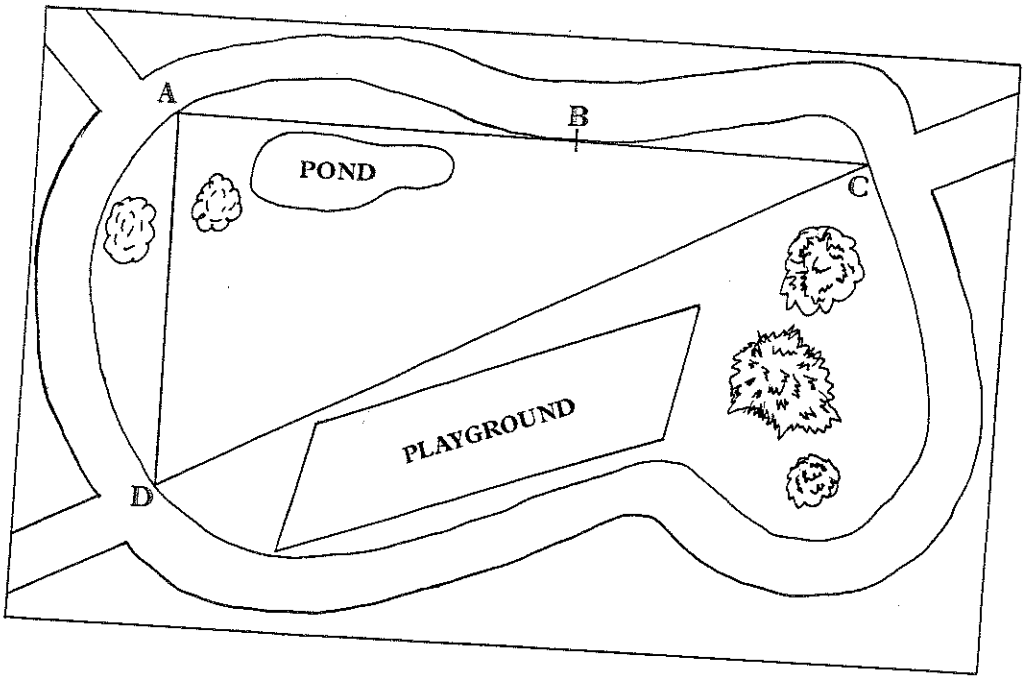
This is a sketch of one corner of Victoria Park. The dotted line represents a path that bisects the angle at this corner. This dotted line could have been drawn on the sketch by using a protractor.

Discuss other ways of placing this dotted line accurately.



Suppose there is another path which is perpendicular to the one in the previous sketch. This other path is shown by the second dotted line.

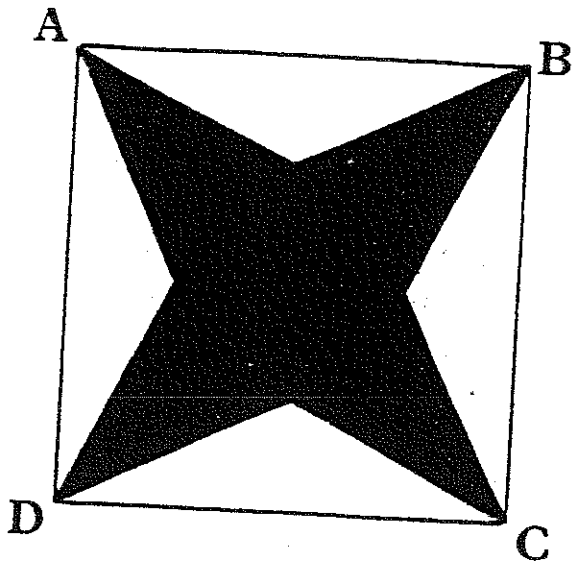
Discuss ways of accurately placing this second dotted line on the sketch.



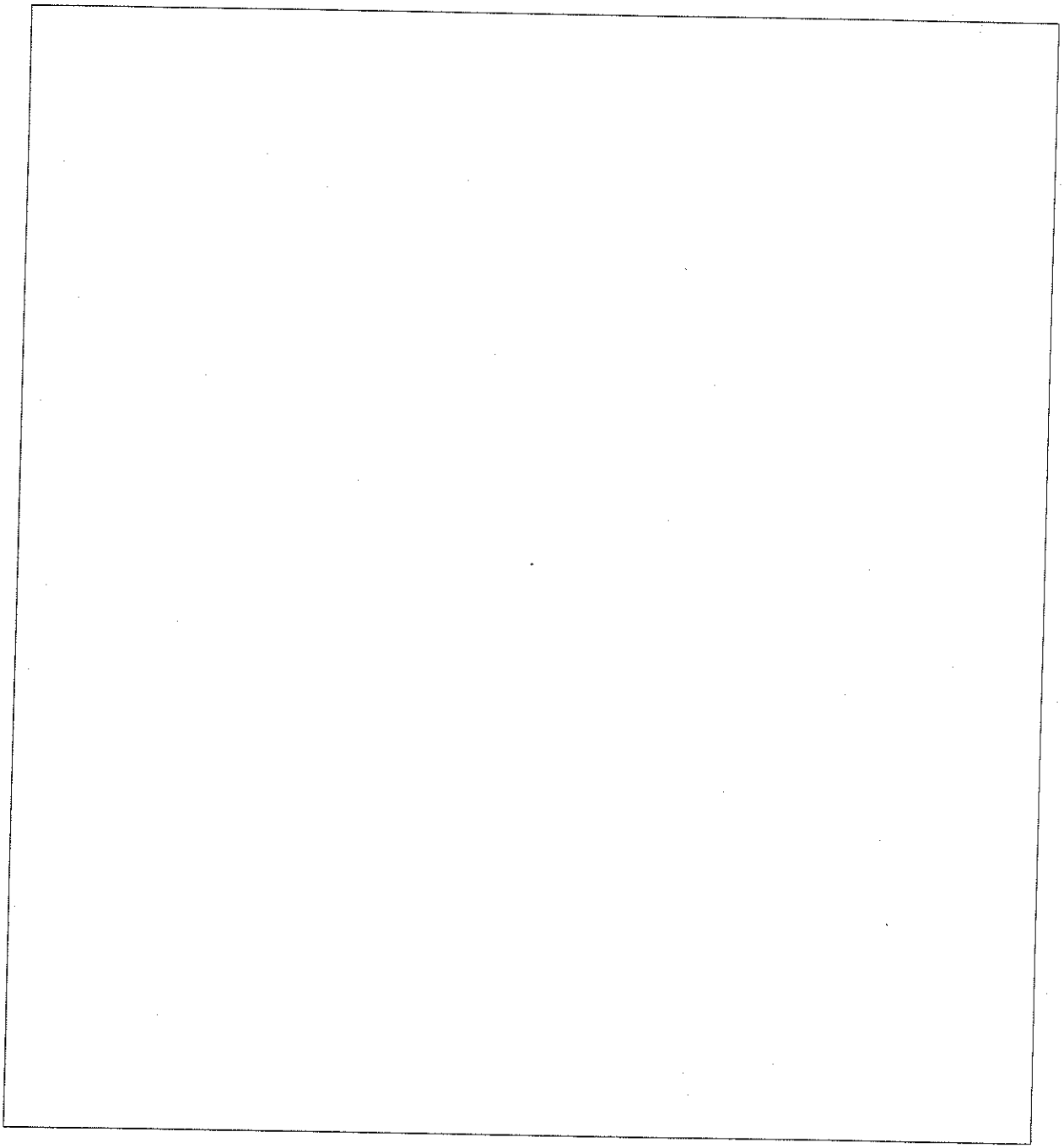
Three cycle tracks are shown: AD, DC and AC.
There is another cycle track from B to DC. This cycle track is perpendicular to AC.

Use your compass to construct the line of the cycle track which runs from B to DC.

Can you construct this shape using 'Angle Bisection techniques'?

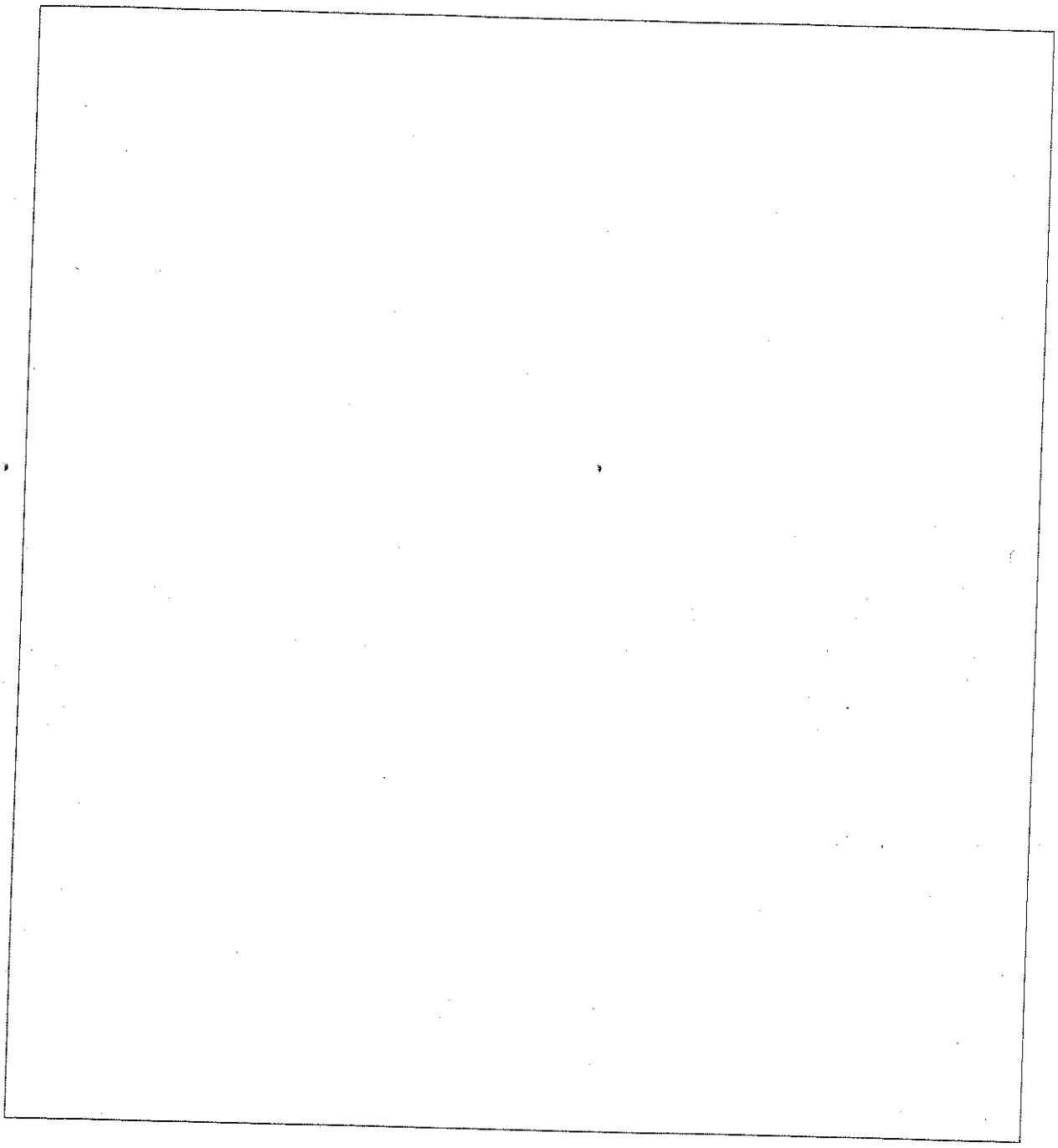


Construct a triangle with sides 10cm, 8cm and 6cm using a pair of compasses.



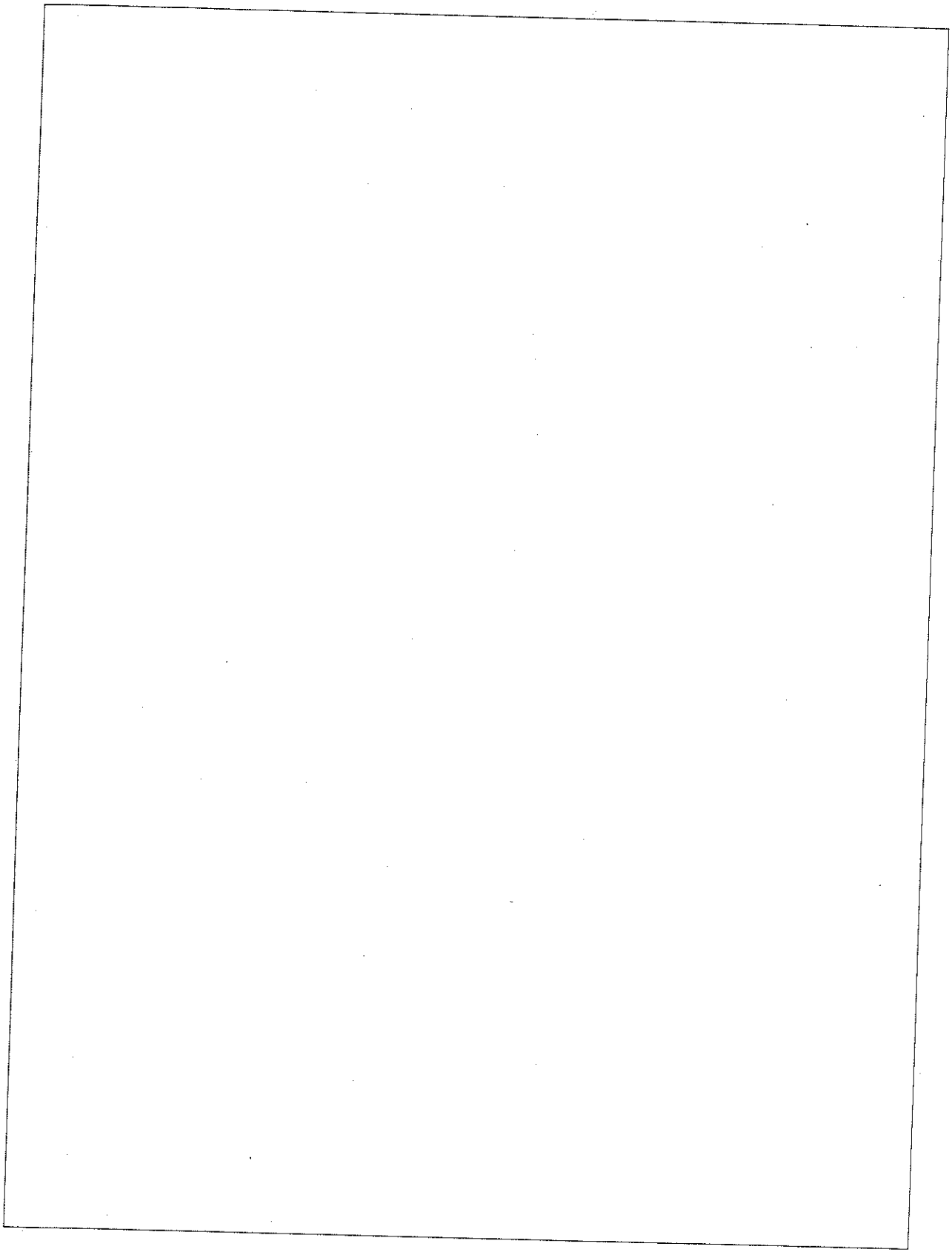
- Bisect each side
- What do you notice?
- Using your 'pair of compasses' can you discover a connection between, your observation to the above question and the triangle you have constructed?

Construct a triangle with sides 12cm, 10cm and 7cm using a pair of compasses.



- Bisect each angle
- What do you notice?
- Using your 'pair of compasses' can you discover a connection between, your observation to the above question and the triangle you have constructed?

Construct a 'symmetrical' shape using all the skills you have developed during this project.



$$2x+1 = x+5$$

$$2x+1 = 15$$