LESSON PLANS FROM

3-12/Composition

DaVinci The Initiative

"Composition Study with Chardin"

Lesson plans designed for DVI by

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Carafe, Silver Goblet and Fruit, Chardin

SUMMARY

Chardin is a master of composition. His still life arrangements are beautiful to the eye and are very purposefully set up using mathematical ratios that have stood the test of time.

His still life paintings reflect intricate planning that upon study can be useful to apply to artists' contemporary composition ideas today.

This lesson provides four geometric possibilities for composition structure for students to analyze and make use of in their own explorations.

OBJECTIVES

- observation and study of mathematic and geometric shape design strategies in Chardin's compositions
- experimentation with the concept of the ratio 1 to1.6, or the golden mean used in composition (grades 9-12 only)
- experimentation with how the Fibonacci spiral can be used in composition
- experimentation with placement of two and three dimensional objects to exemplify possible compositions

STANDARDS:

NATIONAL ART CONTENT STANDARDS:

VA:Re.7.1.3a
VA:Re.7.1.4a
VA:Re.7.1.5a
VA:Re.7.1.6a
VA:Re.7.1.7a
VA:Re.7.1.8a
VA:Re.7.1.Ia

VA:Re.7.2.3a
VA:Re.7.2.4a
VA:Re.7.2.5a

VA:Re.7.2.6a
VA:Re.7.2.7a
VA:Re.7.2.8a
VA:Re.7.2..Ia
VA:Re.7.2.IIa
VA:Re.7.2.IIIa

VA.Cr.1.2.3a
VA.Cr.1.2.4a
VA.Cr.1.2.5a
VA.Cr.1.2.6a
VA.Cr.1.2.7a
VA.Cr.1.2.8a
VA.Cr.1.2.Ia
VA.Cr.1.2.IIa
VA.Cr.1.2.IIIa

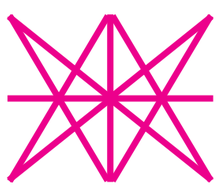
Math Common Core Standards:
CCSS.MATH.CONTENT.3MD.C.5
CCSS.MATH.CONTENT.4.MD.A.1
CCSS.MATH.CONTENT.5.MD.A.1
CCSS.MATH.CONTENT.6.RP.A.1
CCSS.MATH.CONTENT.7.RP.A.1

CCSS.MATH.CONTENT.3.MD.D.8

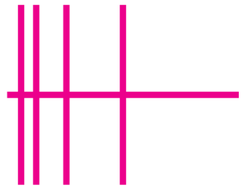
CCSS.MATH.CONTENT.HSG.MGA.A.1

BACKGROUND INFORMATION

There are many ways an artist can use math to arrange still life objects so that they make a beautiful composition. This lesson plan addresses a variety of ways to do this, including using a radial-like pattern of angled lines,



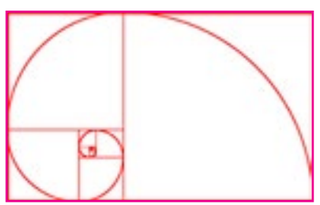
dividing a space in half and then in half again, and then half of that in half (some-times adding diagonal lines that can lead your spectator's eye back into the picture plane),



using the golden mean (rectangle ratio of 1 to 1.6)

1	*1.6*
2	*3.2*
3	*4.8*
4	*6.4*
5	*8*
6	*9.6*
7	*11.2*
8	*12.8*
9	*14.4*
10	*16*
11	*17.6*
12	*19.2*
13	*20.8*
14	*22.4*
15	*24*

and applying the Fibonacci spiral, which is based on adding curves to a gradating series of rect-angles that have a ratio of 1 to 1.6



"Composition Study with Chardin" 3-12/Composition

ACTIVITY 1:

This is an introductory activity that gives students a chance to explore how Chardin may have organized his still life compositions by overlaying geometric structures and looking for ways that the placement of the still life objects mimic the structures. Some still life compositions will relate very strongly to one type of structure, while others may be a combination of more than one.

The preparation for this activity takes time, but the materials can be used over and over again. The attached materials for this activity are marked with an A1 on the top right hand corner of each page needed. Print color copies of the Chardin painting images on cardstock, trim the edges so that there is a white edge (including the name of the painting) around the image and then laminate them.

Next print out the four pages that have pink geometric structures on them, also at their original size. You will need eleven each of these structures (a set for each image). You should then trace them with a permanent marker using a ruler onto a clear, transparent or transluscent material. See-through materials that work include the following: tracing paper that will then get laminated, copy them onto clear overhead projector printable transparent sheets, plexiglass pieces bought and cut at the big box hard-ware store, or pieces of dollar store shower curtain cut to size. Using one of the very bright pink sharpies would be a great tool for this job.

Lay the transparent/tranluscent material over the copy and trace the lines with a ruler and the permanent pink marker. The pink will be easy to see when these overlays are used on the paintings. Divide students into small groups (2-3 students) and give each group a set containing one painting image and four geometric structures on transparencies. Instruct them that they will have ten minutes to explore the materials provided and that at the end of the ten minutes their group will be sharing out the three most significant things they discovered. Set a timer or turn over the hourglass and let them go to work. When the timer goes off, explain the protocol for sharing: when a group is speaking we are all attentive and respectful audience members. The order of the very short presentations is your choice. Do not pass judgment when people are sharing out, just listen. If there has not been a correlation between the geometric structures and the placement of the still life objects in the composition... send them back for a 7 minute exploration followed by a share out of the the three NEW discoveries they made.

MATERIALS:

- copies attached pages with A1 in the upper right hand corner

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- One of the following choices: tracing paper, overhead projector printable tranparent sheets, plexiglass pieces bought and cut at the big box hardware store, or pieces of dollar store shower curtain cut to size
- bright pink sharpie "neon pink"
- time

ACTIVITY 2:

SILENT CRITIQUE
This is a chance for students to apply the concepts they discovered in Activity 1. Using the attached handouts labelled A2x and A2y in the upper right hand corner, make enough copies for your students to have a choice of one of the A2x pages and one of the A2y pages.
The idea here is to fill the shapes on the A2x pages with drawings of real objects from the classroom with a drawing without too much perfectionism (no tiny details or shading) because the emphasis for this activity is on arranging different sized objects in a geometrical structure on handouts A2y.
These are the instructions on the handout:
Find one object per rectangle/ellipse that naturally fits into the space provided.
Draw each object inside of each shape, making sure that the object is large enough to touch all sides of the rectangle/ellipse.
These are meant to be simple contour drawings that are not going to be shaded or detailed to the point that they take a long long time. It is more important that you have five drawings finished than it is that they are detailed and totally realistic.

When complete, cut out each drawing and arrange it into a composition "collage style" using one of the geometrical structure idea handouts and observed and shared observations from the first activity. Try a few arrangements before gluing them down lightly with glue.
Add a background if there is time.

Have a critique looking over the results when complete. Here is a suggested technique:
Using the handout labelled A2z, make enough copies for one per two students in your class. Cut them in half along the dashed lines. Each student receives one and to fills it out regarding another students work. Assign each student another student so that everyone's work is critiqued by one other student. If you want two critiques per student, just double the copies and assigned names.
Everyone displays their work on a table or desk top, and then set up the ground rules for a Silent Critique:

- no talking or communication with other students
- distribute critique papers and read critique questions first for one timed minute
- take any questions about the critique questions before beginning
- students find the work they are critiquing and stand in front of it

- take 2 full timed minutes to silently look at the artwork
- take 7 timed silent minutes to write answers to the critique questions, then put critique paper under the artwork when the time is up
- critique is complete

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Students can keep the critique papers with their artwork, or you can ask them to hand in their work along with the critique papers if you want to add an assessment for both processes.

MATERIALS:

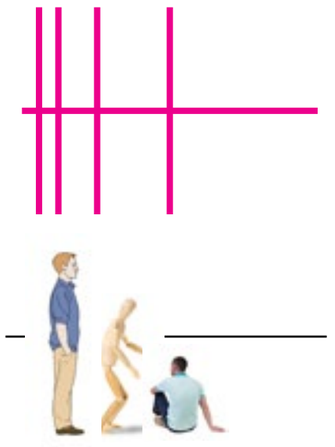
- copies of A2x handouts, one per two students
- copies of A2y handouts, one per four students or so
- copies of A2z, one per two students
- pencils
- timer (an hour glass or eggtimer.com is great because students can see time)

A NOTE ABOUT CRITIQUES:

A variety of critique techniques is important to reach different personality types and communication types. For example, a verbal critique with few parameters is for the extroverted, fast processor and confident students, while the silent critique is for the introverted, slower processor and maybe less confident student. With respect to people that find it difficult to take critical suggeiustions about their work, using certain language with a positive undertone will be helpful. Easing into the process of critique using varied and gentle methods discussing afterwards how feelings can be processed is helpful.
As trust is built up critiques can become "deeper" and more...., well, critical. The end goal is for the process to yield helpful comments for future revision/ improvement.

ACTIVITY 3:

HUMAN COMPOSITION
This collaborative group activity challenges students in groups to "arrange" compositions using themselves as the objects in a still life. Assuming different positions to make themselves different shapes and sizes, overlapping themselves or joining together are three of endless possibilities to imitate the attached geometric composition structures provided on handouts marked A3.
Group students into 5, 7 or 9 people each and provide them with one of the geometric composition structures. Explain that they will be a human still life. One student will be the director that will place students into positions...standing back to see if they indeed mimic the geometric composition structure that group has been assigned. One other student will be the photographer and will stand back from the director's point of view to photograph the human still life.



Super simple example of a human still life.

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Procedure for activity:

1. Make 2-3 copies of each of the geometric composition structures handouts marked A3.
2. Divide students into groups of 9 using a deck of cards distributing as close to an equal amout of numbers from each suit, one per student. For example 27 students: 9 to a group: card numbers Ace- 9 in clubs, hearts and diamonds are used. Hand them out ramdomly and then students find all the other same suit people. The Ace will be the photographer and the 9 will be the director. The remaining 7 will be the still life objects. If your group divides by 7 do the same process with card numbers Ace-7.
3. Distribute one copy of a geometric composition structure to each group.
4. Give the groups ten timed minutes to come up with an idea of how they will arrange themselves with the use of drawing onto the handout if that is helpful to them.
5. Check if groups are ready...if not an additional ten timed minutes.
6. When ready, set up the expectations for the classroom behavior as presenters and audience:

- Presenters and audience can enjoy the experience, but they must also take it seriously.
- Audience minds their manners, watching and reacting respectfully
- Presenters will take their positions as the director indicates and the photographer will take a picture and the then they will freeze in that posiiton for timed full minute while the director shows the audience the geometric coposition structure.

- The audience compares the human still life with the geometric composition structure and chooses one of three reactions as an analysis:

1. Thumbs up for "Yes that human still life looks like it fits the geometric composition structure."
2. Thumbs in the middle (neutral) for "I can't tell if the human still life fits the geometric composition structure" or "it kind of does, but not really".
3. Thumbs down for"No way, it does not fit the composition structure."

When everyone has had a turn, students complete the handout A3R, called "Human Still Life Activity Reflection".
Collect the reflections and use them as a your measurable student assessment.

Post pictures on school website, or facebook page, or tweet out to friends and family.

MATERIALS:

- copies of A3 handouts, three of each
- copies of handout A3R "Human Still Life Activity Reflection", one per student
- deck of playing cards
- pencils and erasers
- cameras...cell phones or school cameras

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ACTIVITY 4:

TEENY TINY COMPOSITIONS
This activity is a chance for individual students to experiment with arranging and then drawing a very simple tiny composition.
Each composition is made of materials that you can buy in a large amount for not too much money. Then you can use Post-IT notes for drawing paper and students can easily display the work by sticking it onto any hallway or bulletin board surface you choose.
Each child will recieve the same materials as everyone else and will have the freedom to arrange the objects in what they think is a stong composition using the handout marked A4, with various geometric composition possibilities/suggestions.
For example:

Four possible compositions made with office objects.

Open and pour out objects and have students come by to pick up the specified number of each object for their Teeny Tiny Compositions. Signage explaining "one each" or "three of these" can save you a lot of repeated directions.
Use 5 objects per students. Here is a list of suggested objects to use:
FIVE DIFFERENT TYPES, SIZE, SHAPES OF:

- cereal
- dried pasta
- candies
- pretzels, snacks
- frozen vegetables (peas, corn, green beans, etc.)
- OR copies small pictures of objects on handout A4 TTC

Once the student decides the composition is sound, she/he then draws a teeny tiny drawing of it on the post-IT note using pencil.
On the back she/he writes the number of the geometric structure from the handout 1, 2, 3 or 4 to indicate which structure the composition is based, or no number if she/he did not use one.

ACTIVITY 5:

MATHEMATICAL COMPOSITION ANALYSIS, grades 7-12
This activity is for students that can use mathematic equations to figure out ratios and look for visual patterns that may be indicated with geometric planes, shapes and angles.
It is designed to be an open ended inquiry and analysis problem solving for students grades 7-12.
Using the color Chardin still life images (atached A1 handouts), students will look for ways that Chardin possibly applied

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the use of the golden mean (ratio 1 to 1.6 rectangles) to the placement of the objects in the still life images.
The understanding that the Fibonacci Spiral is formed by adding curves into progressively smaller and smaller rectangles all based on the golden mean ratio. See the attached A5 handout for golden mean resources and hints.
Students may need rulers and calculators to do this work. Placing tracing paper over the image and tracing edges of objects with pencil, then measuring from center axises of still life objects may uncover some patterns.

Also, placing tracing paper over the image and using a ruler to draw diagonals may uncover different patterns.
Looking at overall larger patterns vs, smaller patterns may reveal mathematical concepts.
The intent behind this step is for students to practice open-minded observation. There are no correct or incorrect answers. We do not know what patterns Chardin was creating for sure. However, studying his compositions will yield knowledge so that we can then apply new ideas to our own art works.

ACTIVITY 5 RUBRIC

CRITERIA	3 pts	4 pts	5 pts
Observation and study of mathematic and geometric shape design strategies in Chardin’s compositions	Student showed little or no evidence of observation and study of possible mathematic placement strategies in Chardin’s compositions	Student showed some evidence of observation and study of possible mathematic placement strategies in Chardin’s compositions	Student showed evidence of observation and study of possible mathematic placement strategies in Chardin’s compositions
Experimentation with the concept of the ratio 1 to1.6, or the golden mean used in composition	Student showed little or no evidence of observation and study of the concept of the ratio 1 to1.6, or the golden mean used in composition	Student showed some evidence of observation and study of the concept of the ratio 1 to1.6, or the golden mean used in composition	Student showed evidence of observation and study of the concept of the ratio 1 to1.6, or the golden mean used in composition
Experimentation with how the Fibonacci spiral can be used in composition	Student showed little or no evidence of experimentation with how the Fibonacci spiral can be used in composition	Student showed some evidence of experimentation with how the Fibonacci spiral can be used in composition	Student showed evidence of experimentation with how the Fibonacci spiral can be used in composition

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ACTIVITY 1-4 RUBRIC

CRITERIA	3 pts	4 pts	5 pts
Observation and study of mathematic and geometric shape design strategies in Chardin’s compositions	Student showed little or no evidence of observation and study of possible mathematic placement strategies in Chardin’s compositions	Student showed some evidence of observation and study of possible mathematic placement strategies in Chardin’s compositions	Student showed evidence of observation and study of possible mathematic placement strategies in Chardin’s compositions
Experimentation with placement of two and three dimensional objects to exemplify possible compositions	Student showed little or no evidence of experimentation with placement of two and three dimensional objects to exemplify possible compositions	Student showed some evidence of experimentation with placement of two and three dimensional objects to exemplify possible compositions	Student showed evidence of xperimentation with placement of two and three dimensional objects to exemplify possible compositions

ADDITIONAL RESOURCES

Chardin books:
Both of these books have beautiful color reproductions of chardin’s work.

Chardin, Gabriel Naughton
ISBN 0-7148-3336-3 paperback
ISBN 0-7148-3337-1 hard cover

Chardin, Pierre Rosenberg
ISBN 2-605-00184-9
(written in French)

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A Basket of Peaches, Jean Simeon Chardin

A1

A Green-neck Duck with a Seville Orange, Chardin

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A Basket of Wild Strawberries, Chardin

A1

Carafe, Silver Goblet and Fruit, Chardin

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Lady Sealing a Letter, Chardin

A1

The Attributes of the Arts and their Rewards, Chardin

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The Attributes of the Arts and their Rewards, Chardin

A1

Lady Taking Tea, Chardin

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The Attributes of the Sciences, Chardin

A1

The Copper Water Urn, Chardin

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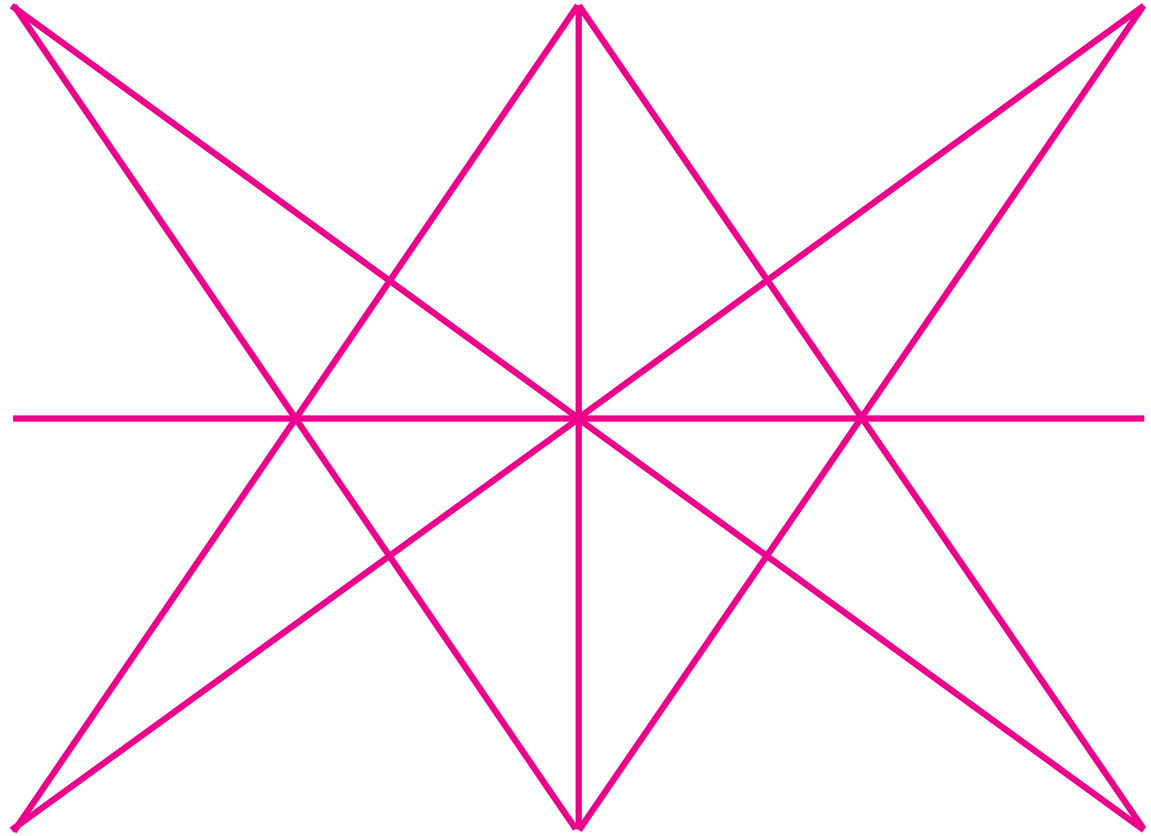
The Fast Day Meal, Chardin

A1



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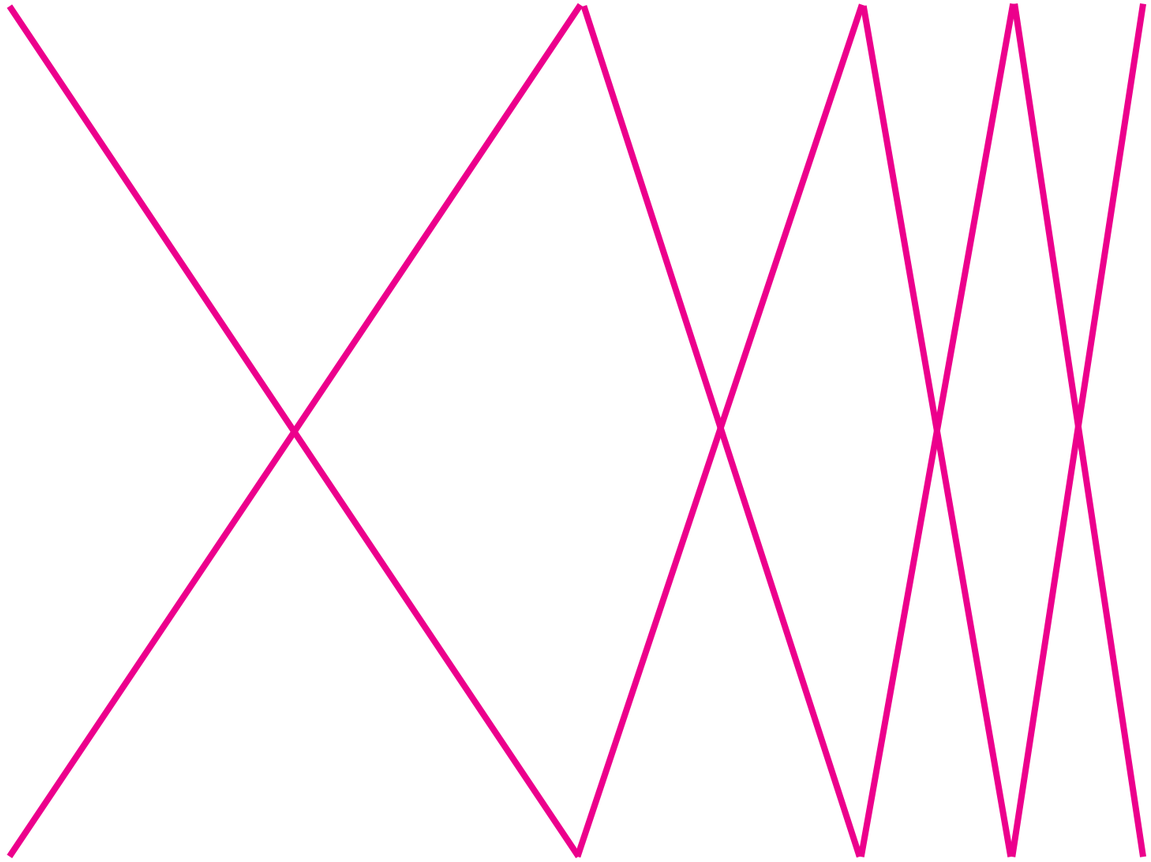
A1



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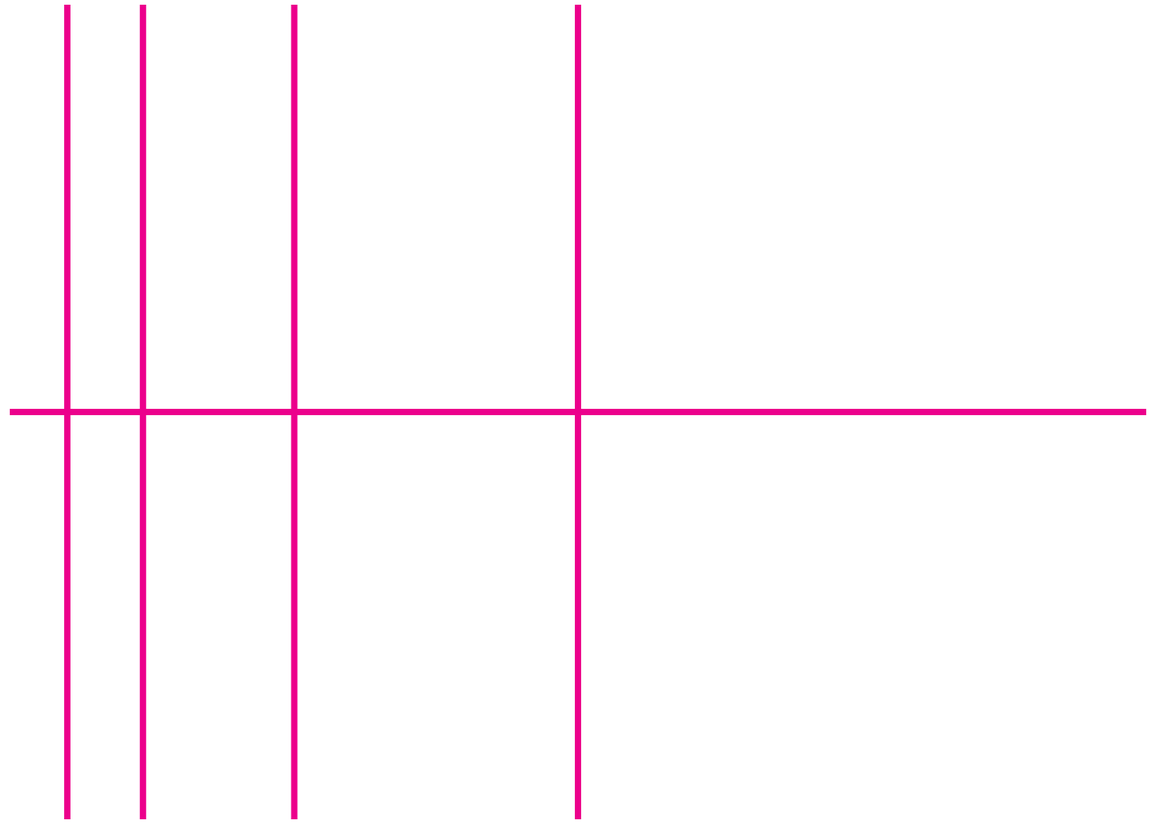

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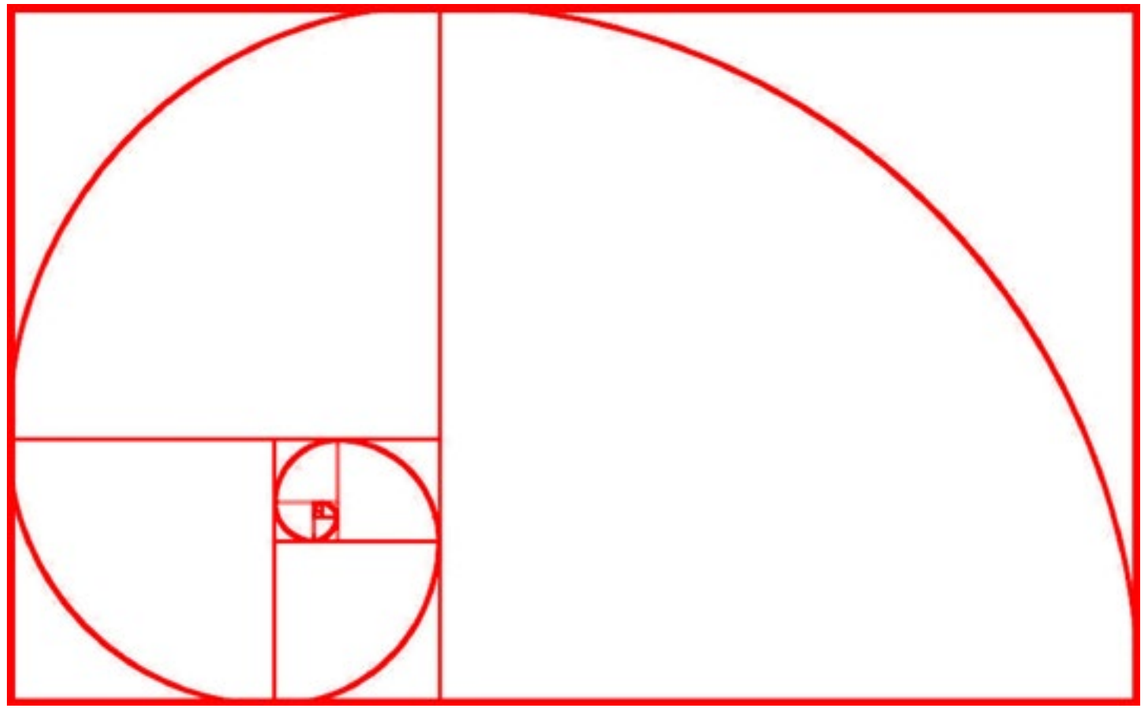
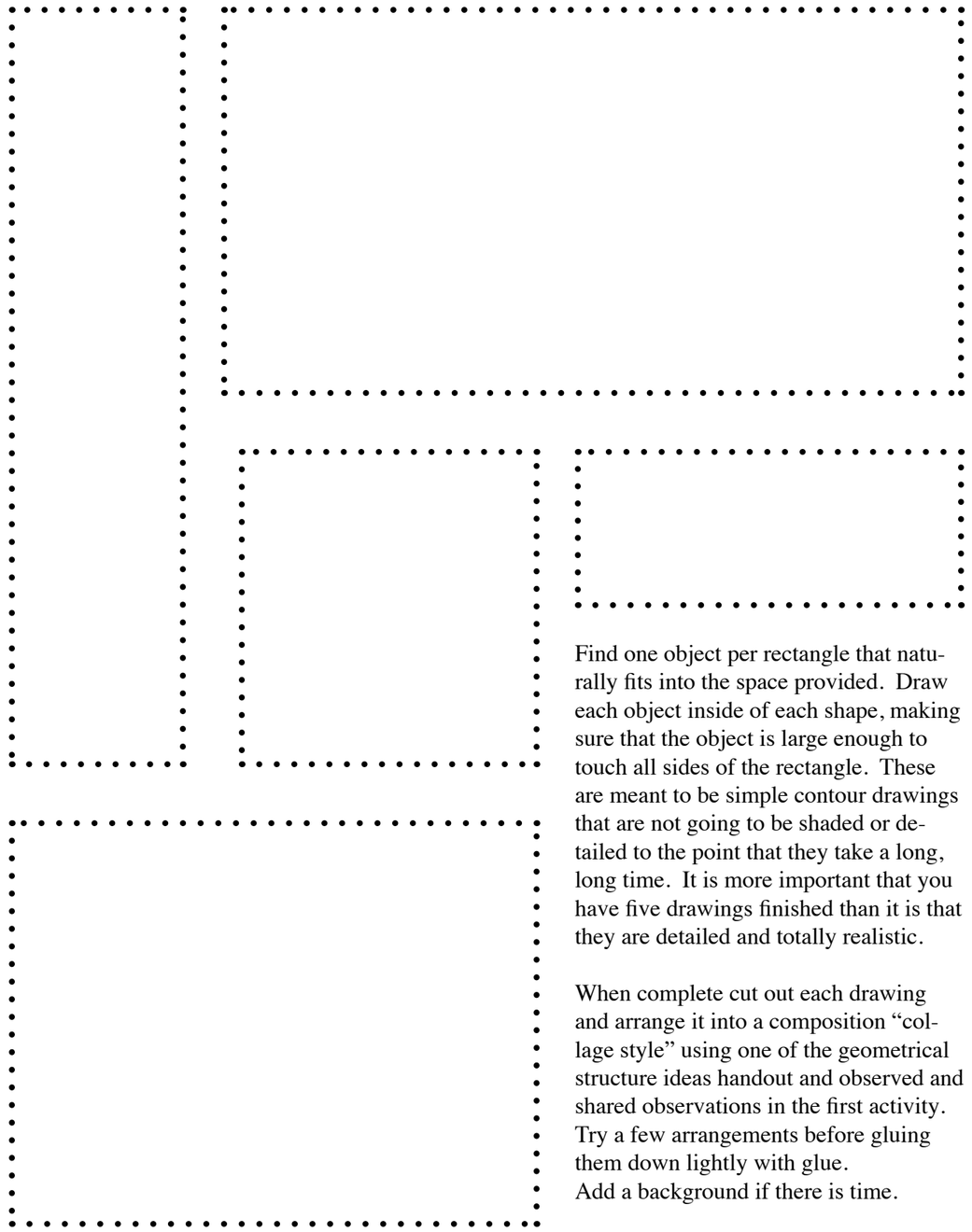


Name_____Period_____

A2x

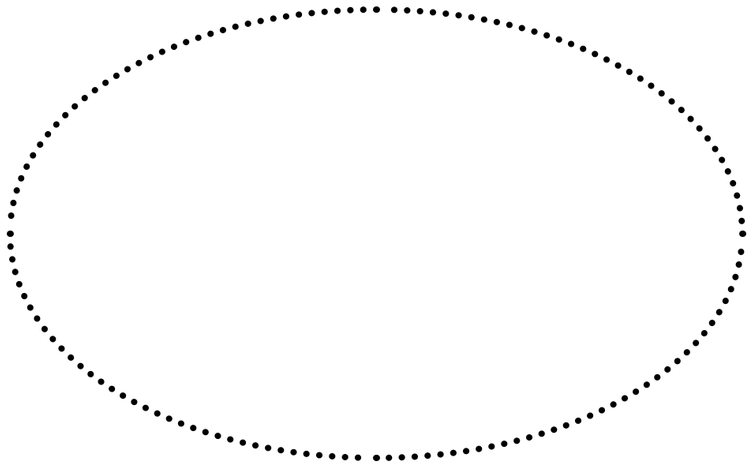


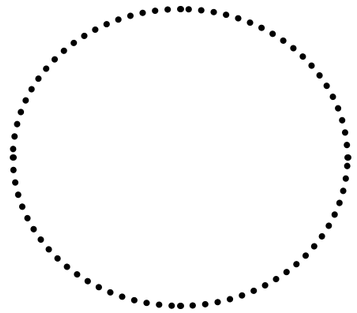
Find one object per rectangle that naturally fits into the space provided. Draw each object inside of each shape, making sure that the object is large enough to touch all sides of the rectangle. These are meant to be simple contour drawings that are not going to be shaded or detailed to the point that they take a long, long time. It is more important that you have five drawings finished than it is that they are detailed and totally realistic.

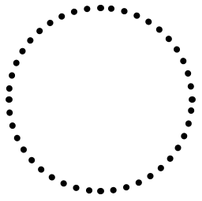
When complete cut out each drawing and arrange it into a composition "collage style" using one of the geometrical structure ideas handout and observed and shared observations in the first activity. Try a few arrangements before gluing them down lightly with glue.
Add a background if there is time.

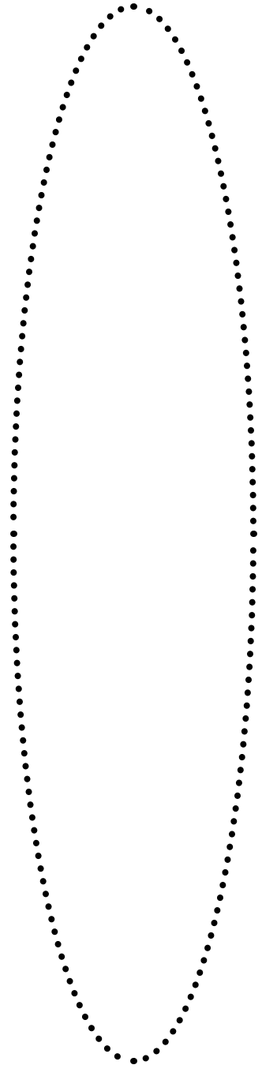
Name_____Period_____

A2x







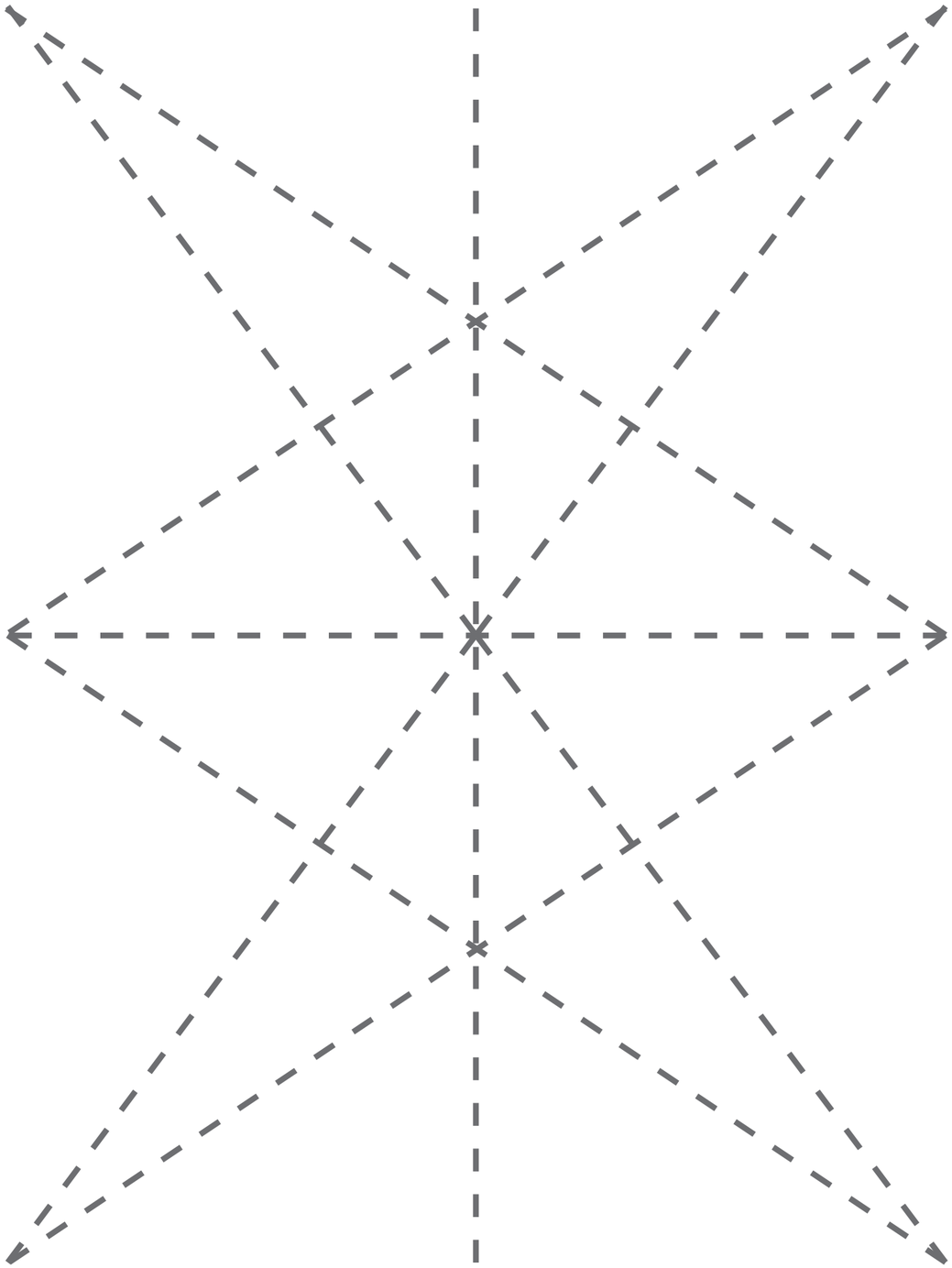


Find one object per ellipse that naturally fits into the space provided. Draw each object inside of each shape, making sure that the object is large enough to touch all sides of the ellipse. These are meant to be simple contour drawings that are not going to be shaded or detailed to the point that they take a long, long time. It is more important that you have five drawings finished than it is that they are detailed and totally realistic.

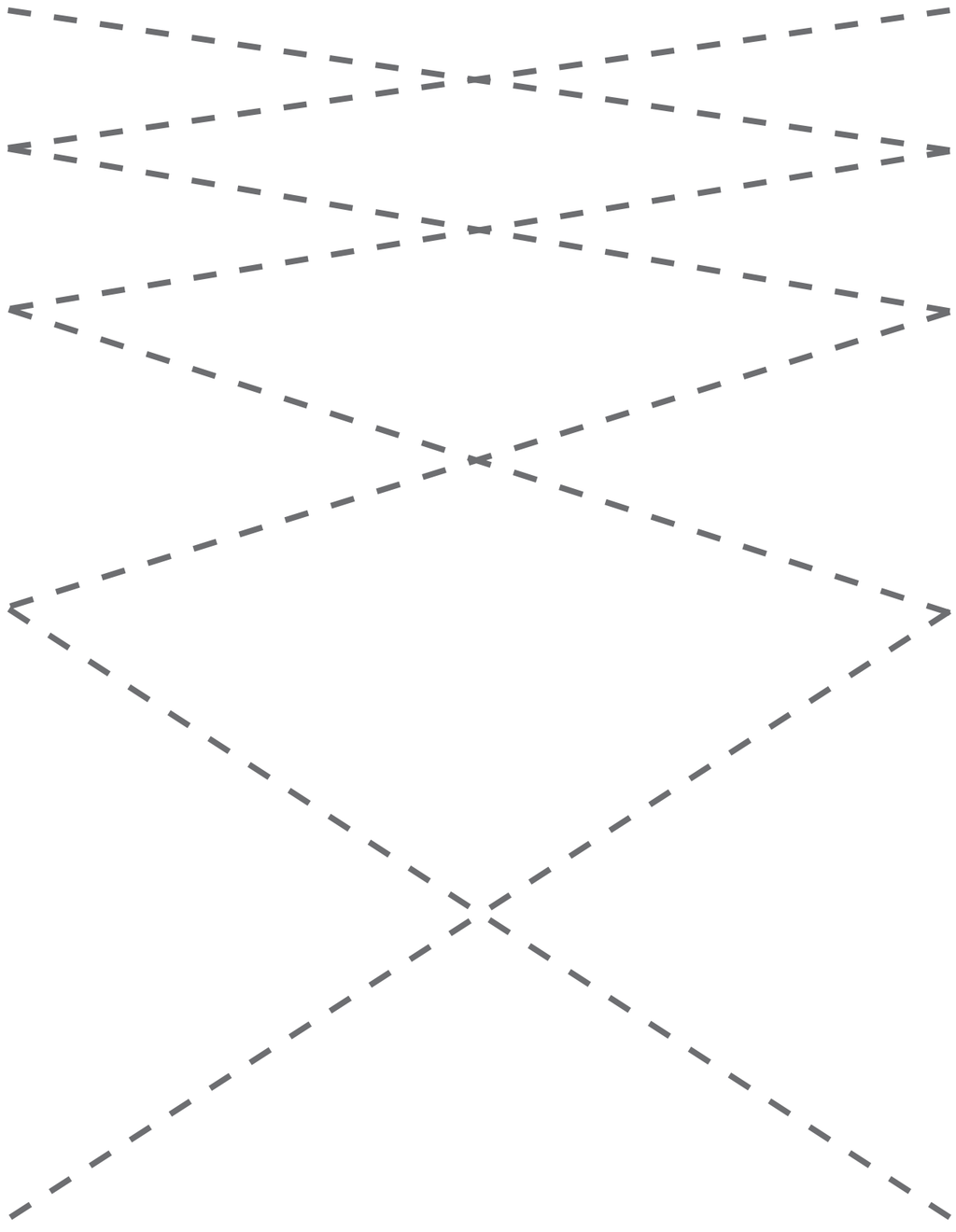
When complete cut out each drawing and arrange it into a composition "collage style" using one of the geometrical structure ideas handout and observed and shared observations in the first activity. Try a ew arrangements before gluing them down lightly with glue.

Geometric Structure Handout

A2y



Geometric Structure Handout *A2y*



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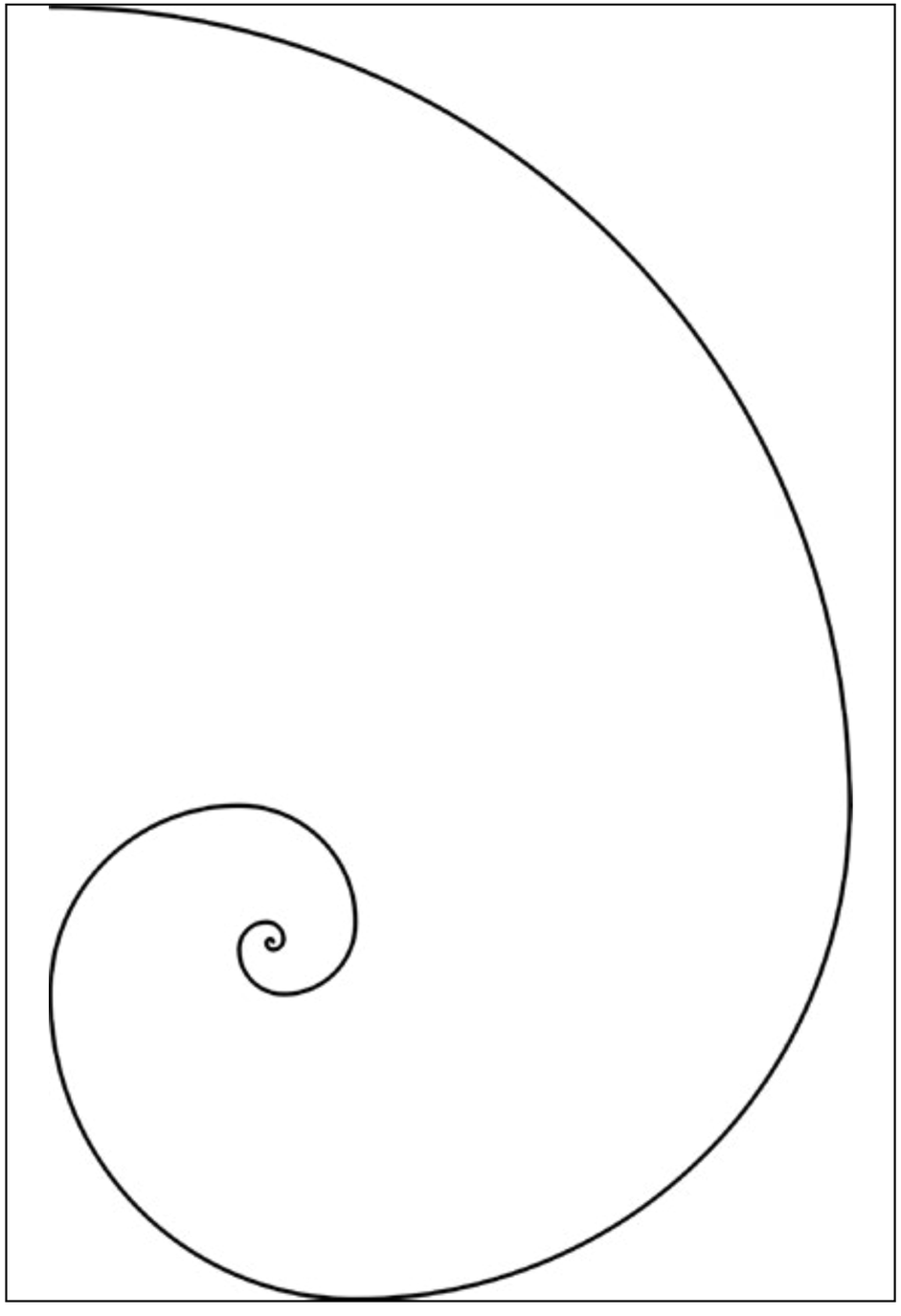

SILENT CRITIQUE QUESTIONS

Please consider what you write carefully and be sure that it is helpful to the artist.

Critic's Name_____Artist's Name_____

Does artwork look complete? (Did work use all five shapes to make 5 drawings?)

Yes, I see_____

No, I see_____

The strongest thing about the composition in this work is_____

_____

The composition in this work interests me because it_____

_____

If this work is revised in any way I would suggest_____

_____

On the back of this paper please write one encouraging sentence to the artist.

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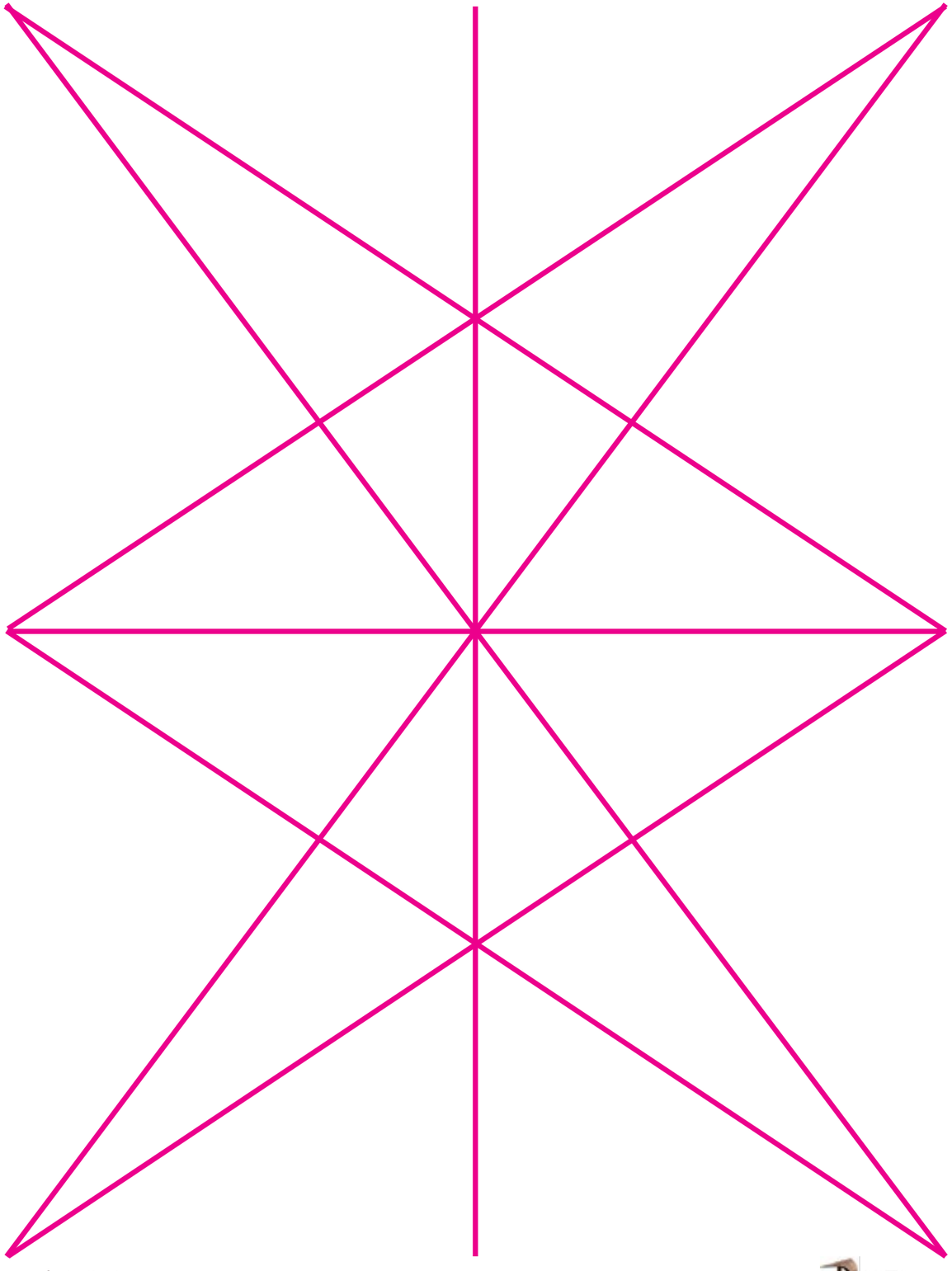
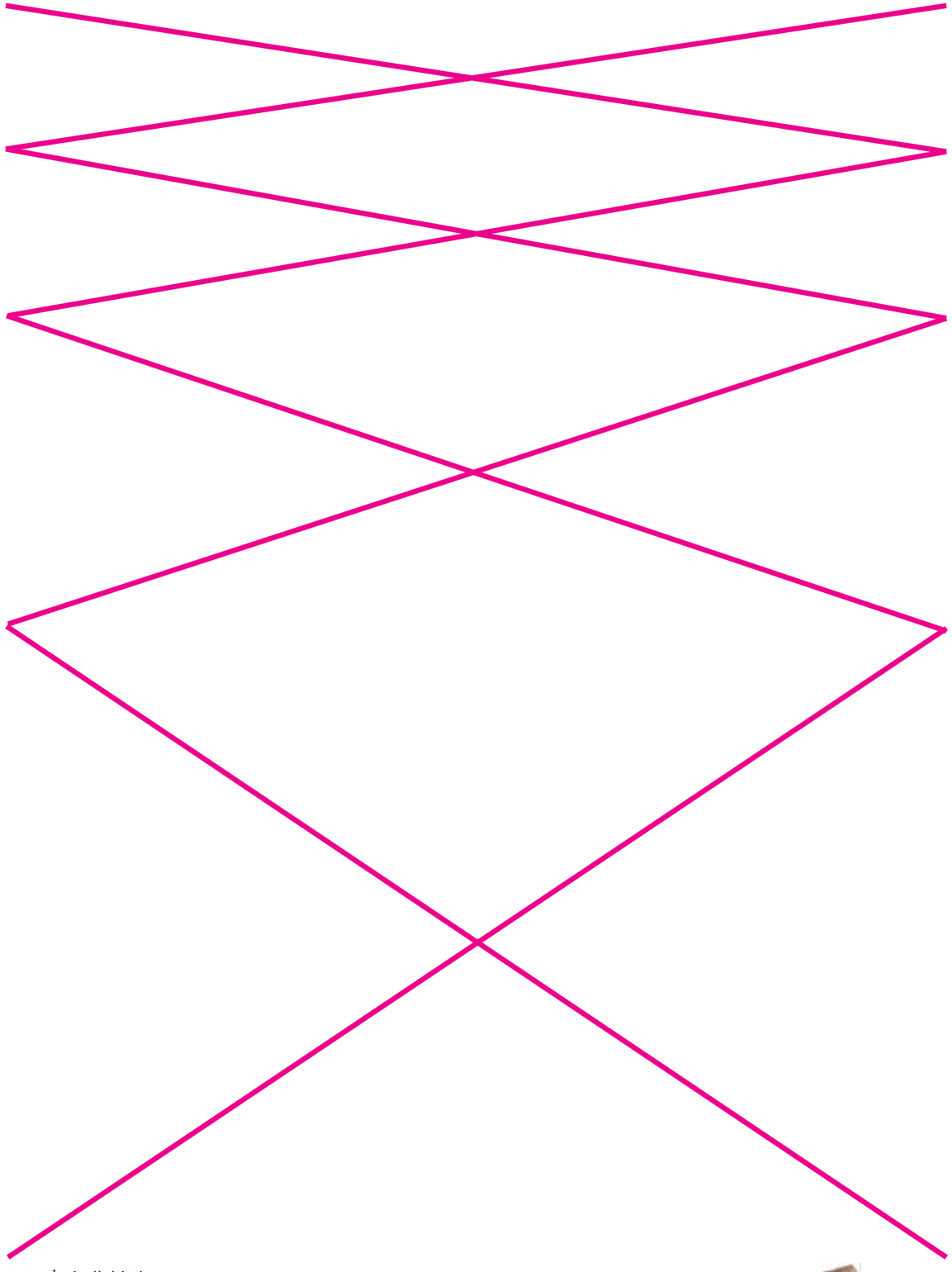
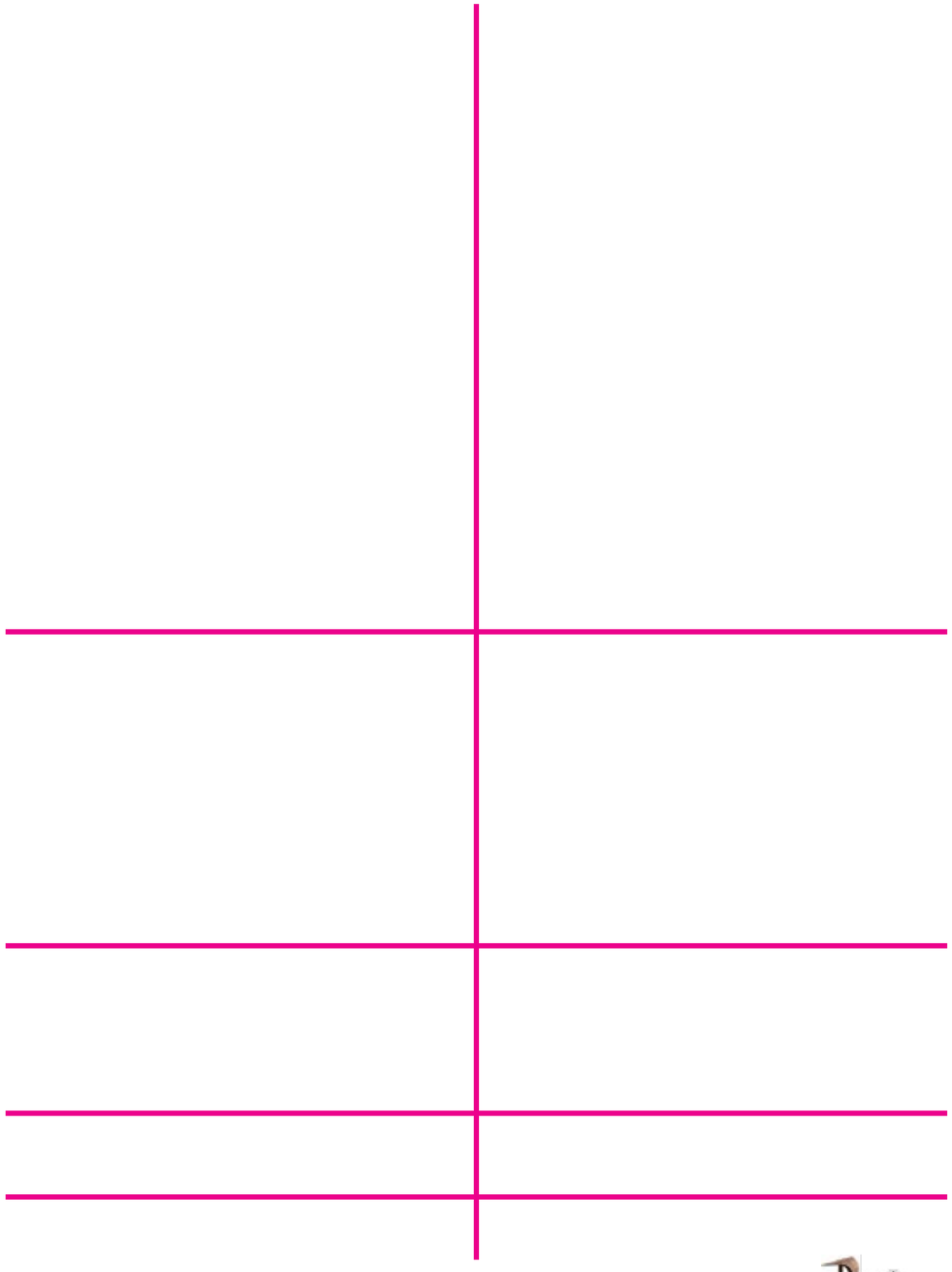
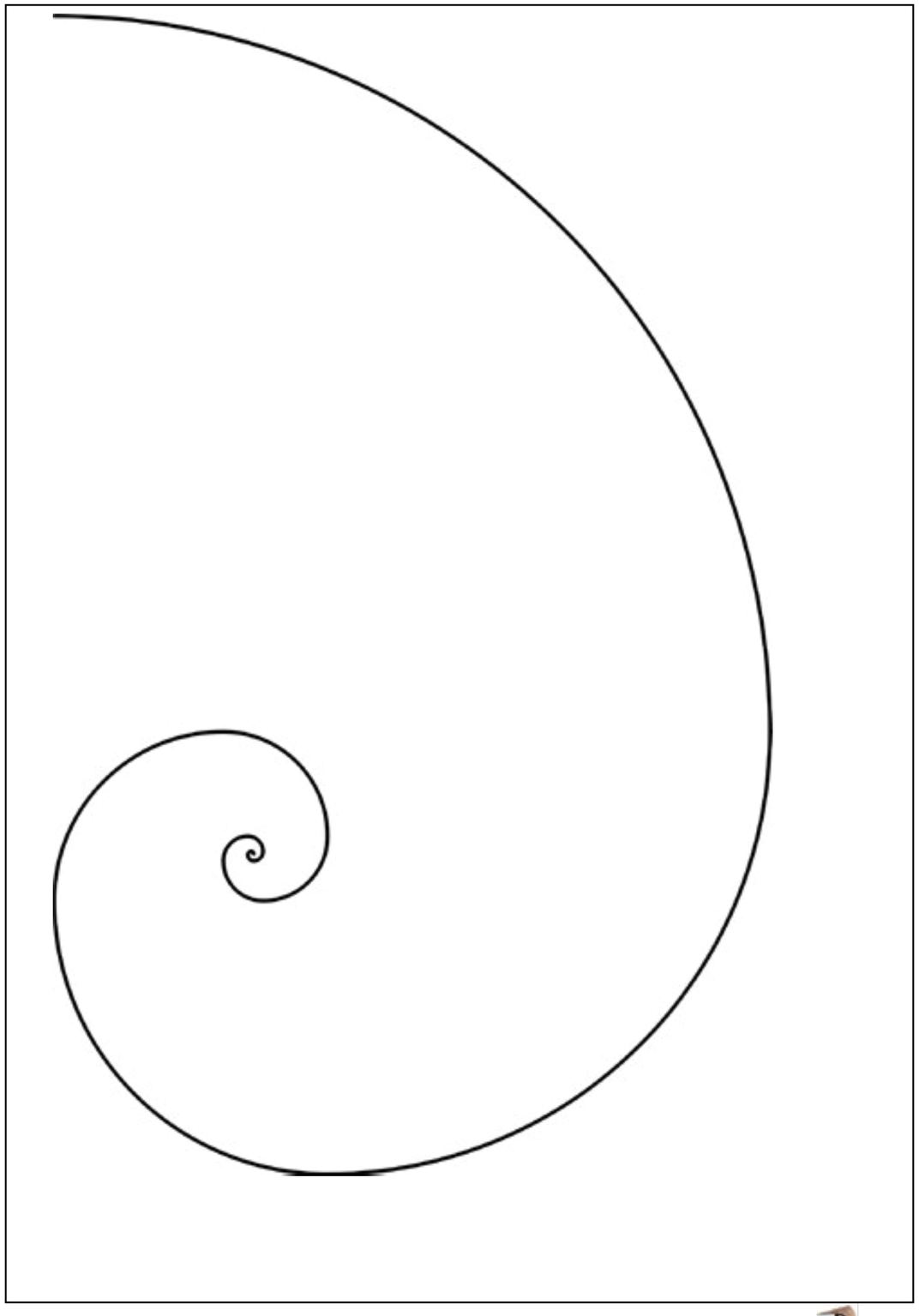


A3







A3 R

Human Still Life Activity Reflection

Name_____Period_____

Thinking about the Human Still Life Activity you participated in.....

What was one thing that turned out to be more difficult that you expected it to be?

In your opinion, did your group collaborate well? _____yes _____no _____in some ways
What went well? or what went wrong?

Write about something that you figured out that you did not know before you participated in this activity:

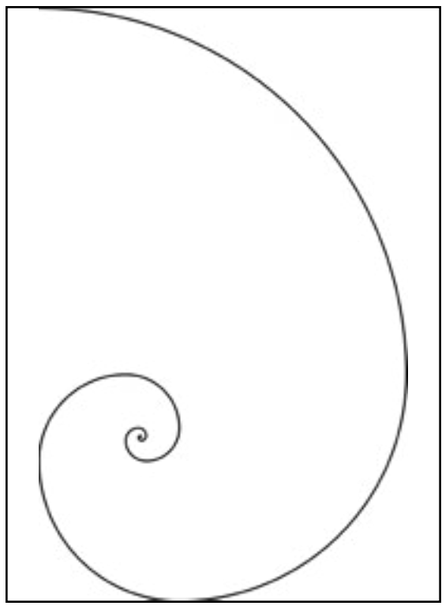
Did you think that the audience accurately analyzed your group's presentation? What was accurate? What was not accurate?

Rate yourself and your group using the following criteria with 1=Not really and 5=Definitely yes:

Objective	Criteria	*1*	*2*	*3*	*4*	*5*
Experimentation with placement of group members to exemplify possible compositions	Did your group members mimic the geometric composition structure?					
Collaboration	Did your group members work well together?					
	Were your group members respectful of each other's ideas?					
Audience Analysis	Was the thumbs up, middle or down reaction from the audience accurate?					
Self Analysis	Rate your participation compared to your other group members regarding ideas offered					
	Rate your participation in the presentation					

A4

1.



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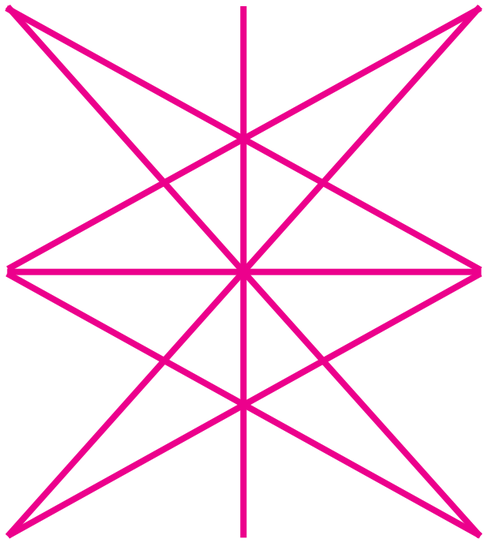

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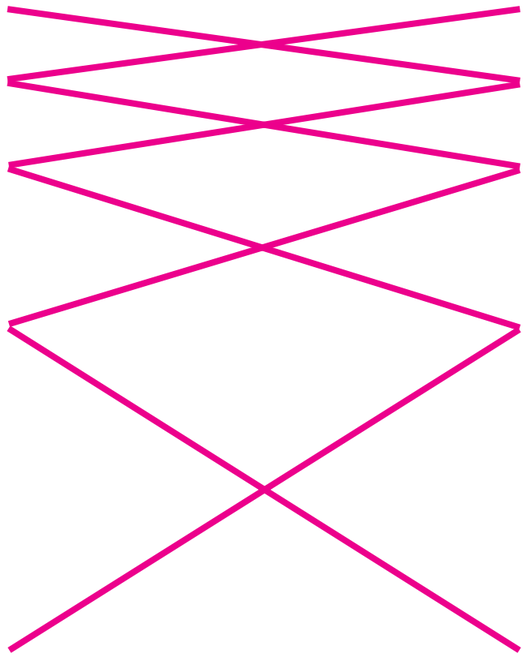

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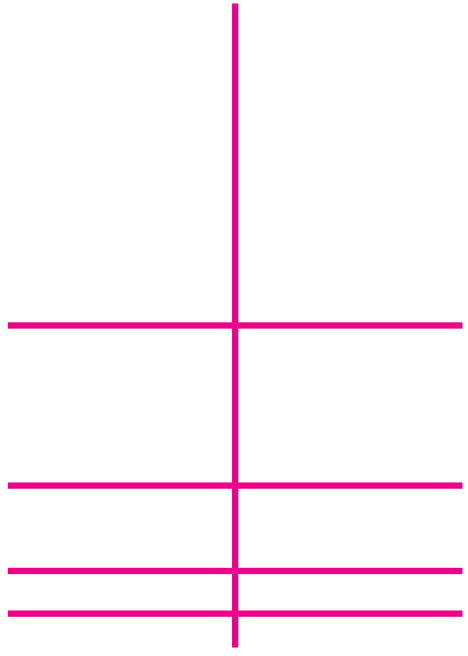

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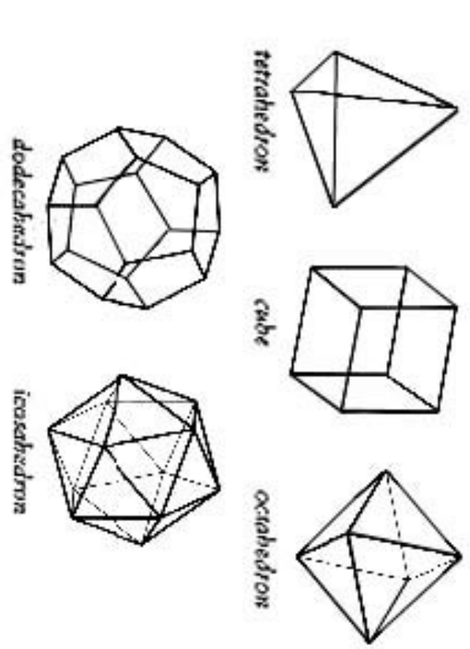
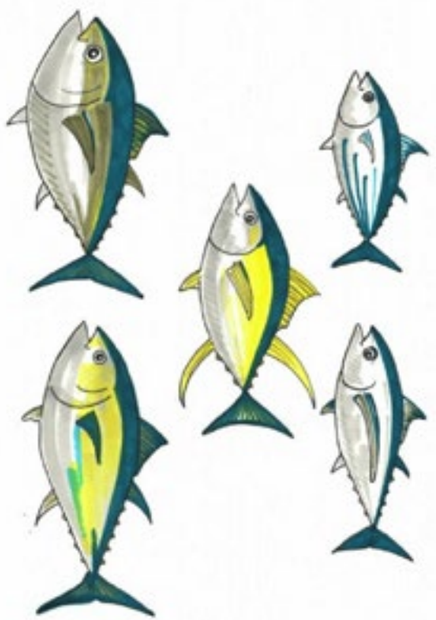
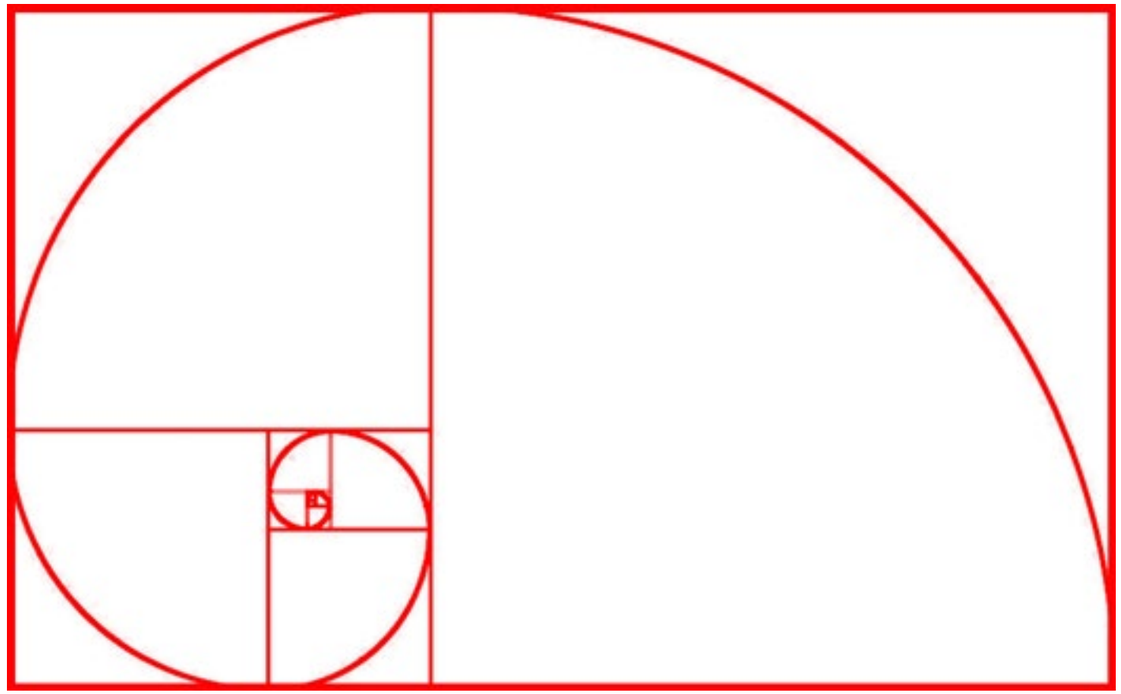




GOLDEN MEAN
RATIO 1 TO 1.6



1 to 1.6
2 to 3.2
3 to 4.8
4 to 6.4
5 to 8
6 to 9.6
7 to 112
8 to 12.8
9 to 14.4
10 to 16
11 to 17.6
12 to 19.2
13 to 20.8

How do you figure out the length and width of a rectangle that follows the golden mean ratio?

How did Chardin use this ratio and the Fibonacci Spiral in the placement of the objects in his still life paintings?

Why would an artist use the golden mean in her/his art work?