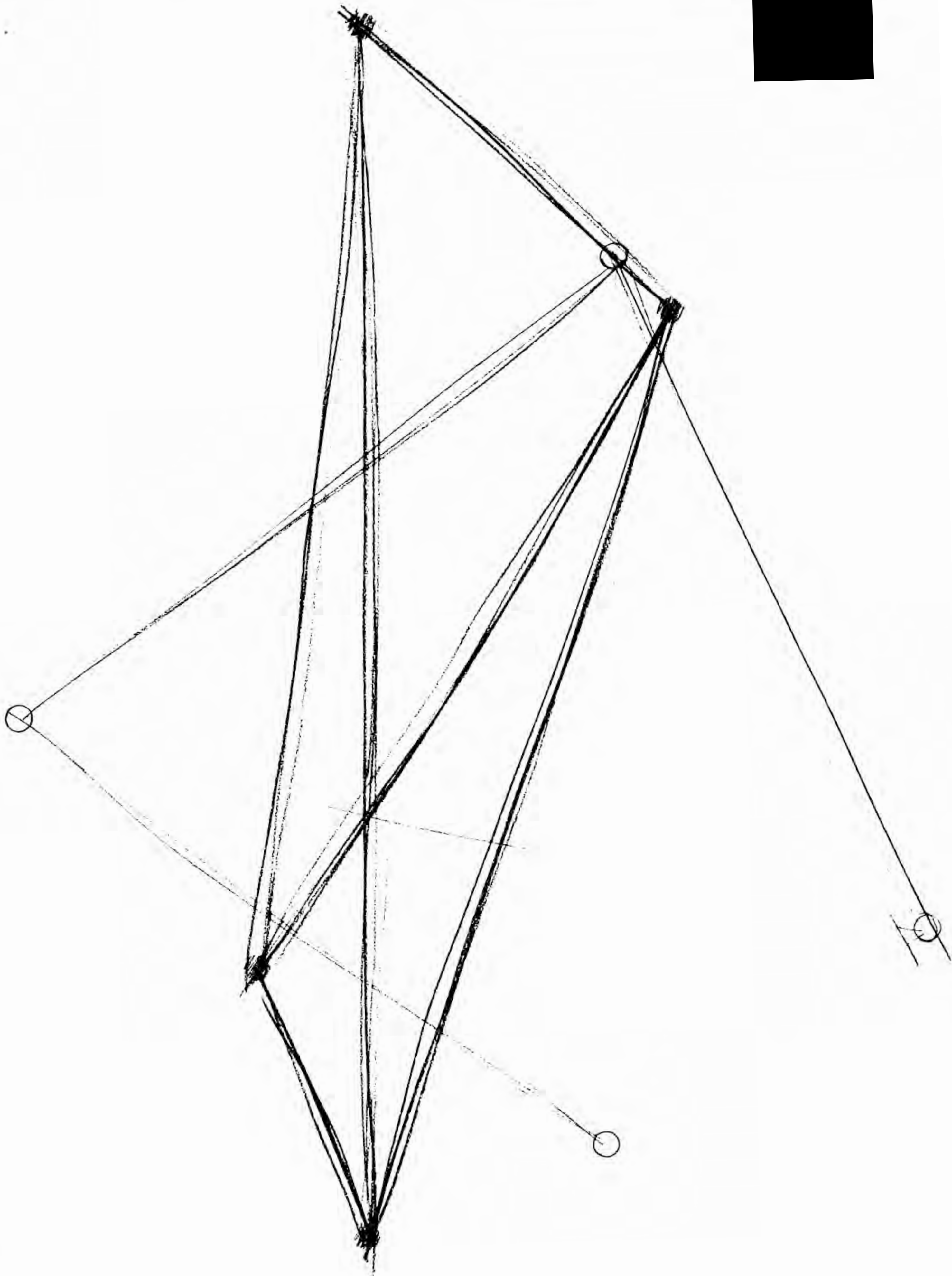
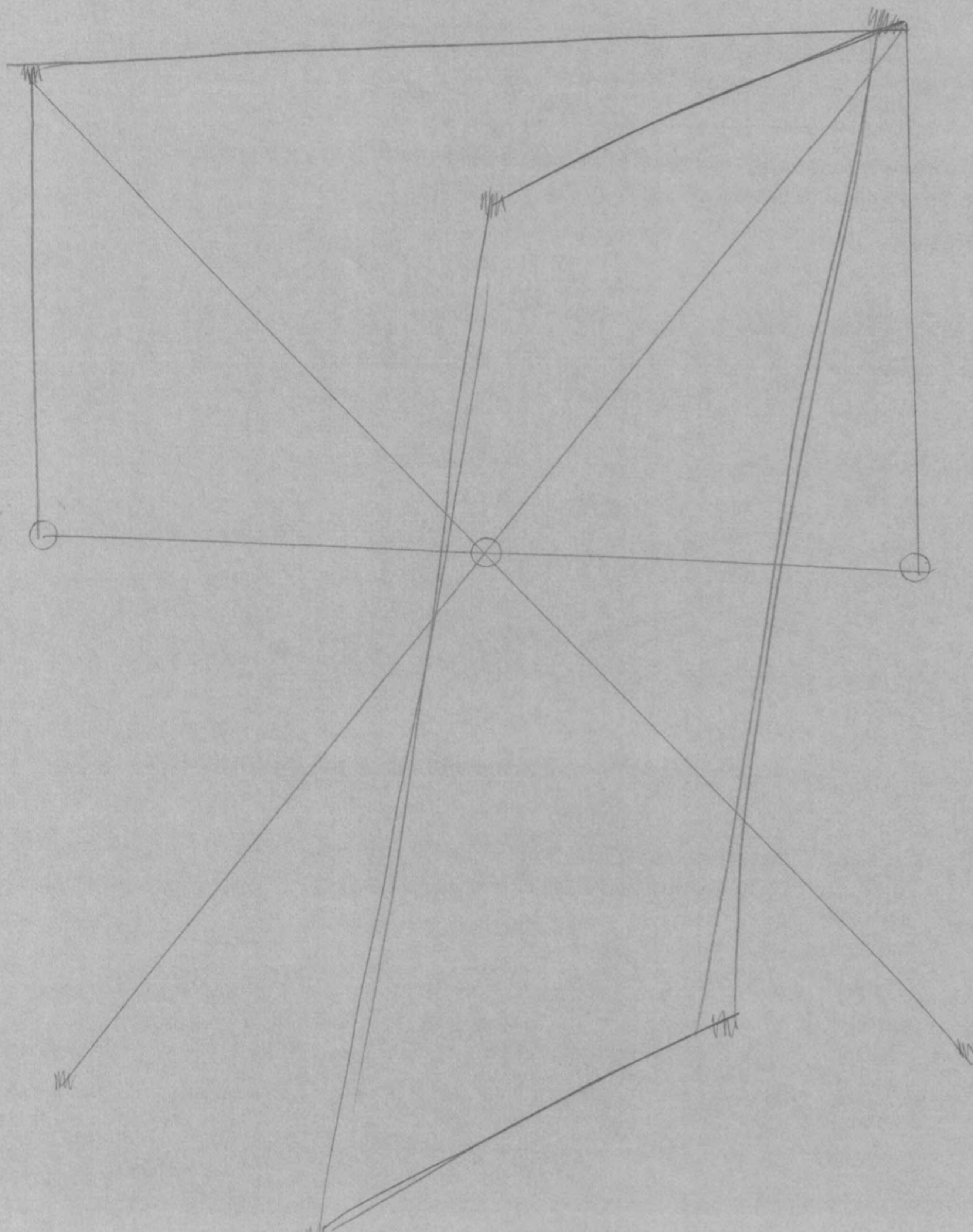
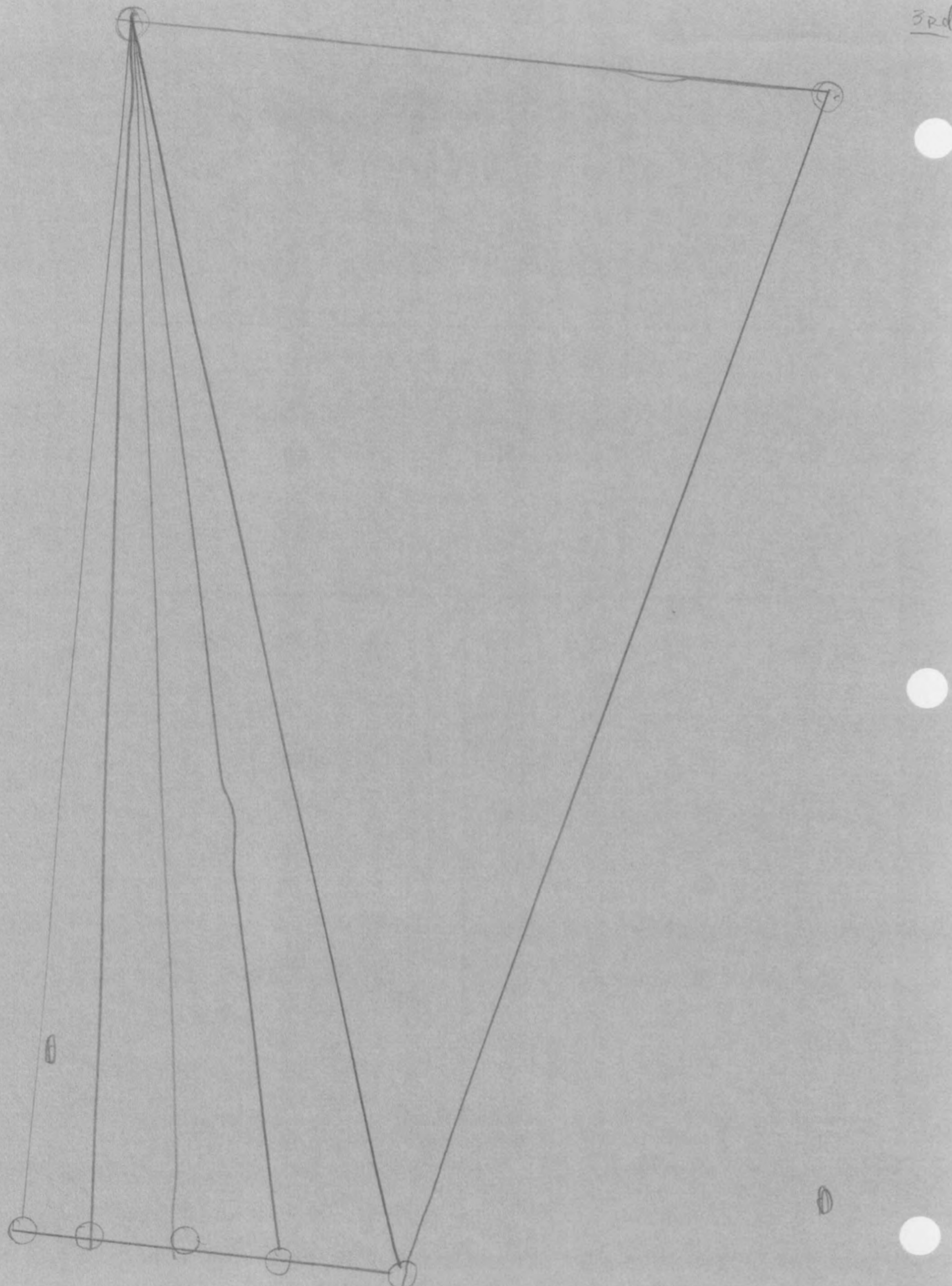
[redacted]

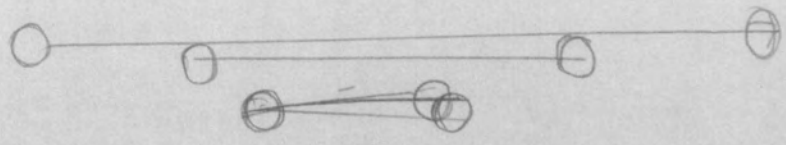


2nd

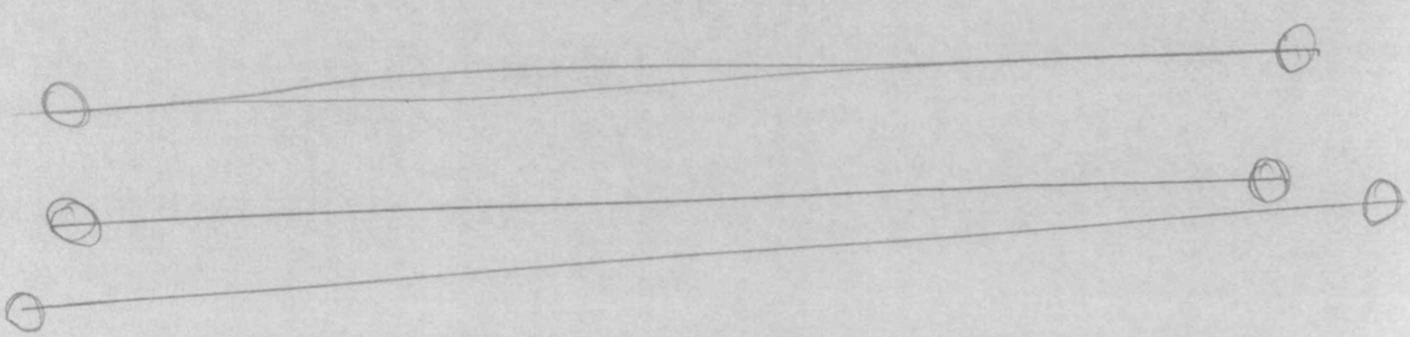



3rd

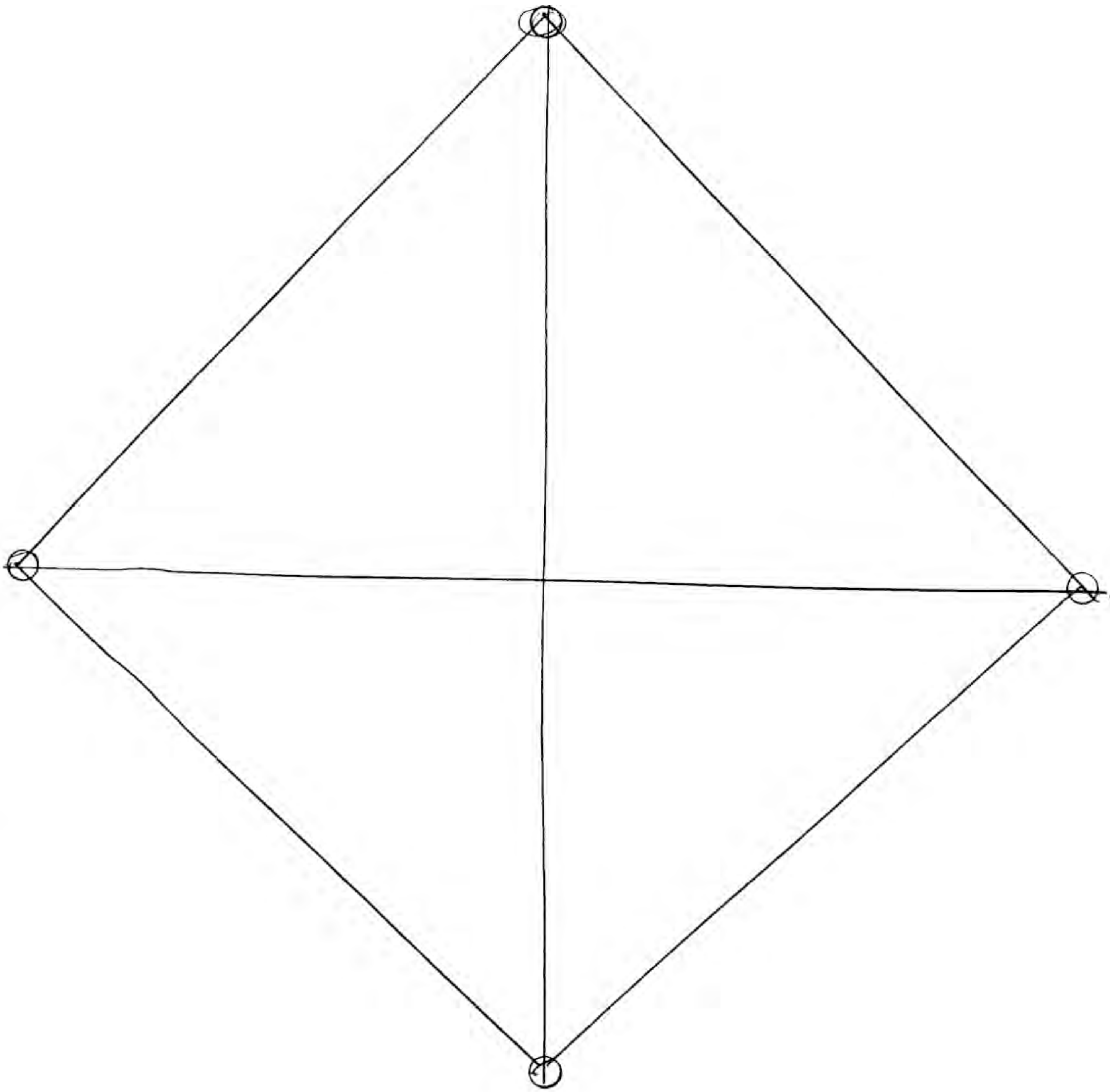
4TH



Parallel lines whe know
THAT when you Have THE TWO long
STICKS IF you match-up THE Points
~~TH~~ leaving THE same # OF DOTS
on EACH SIDE THan you will Have
Parrallel lines.



5TH

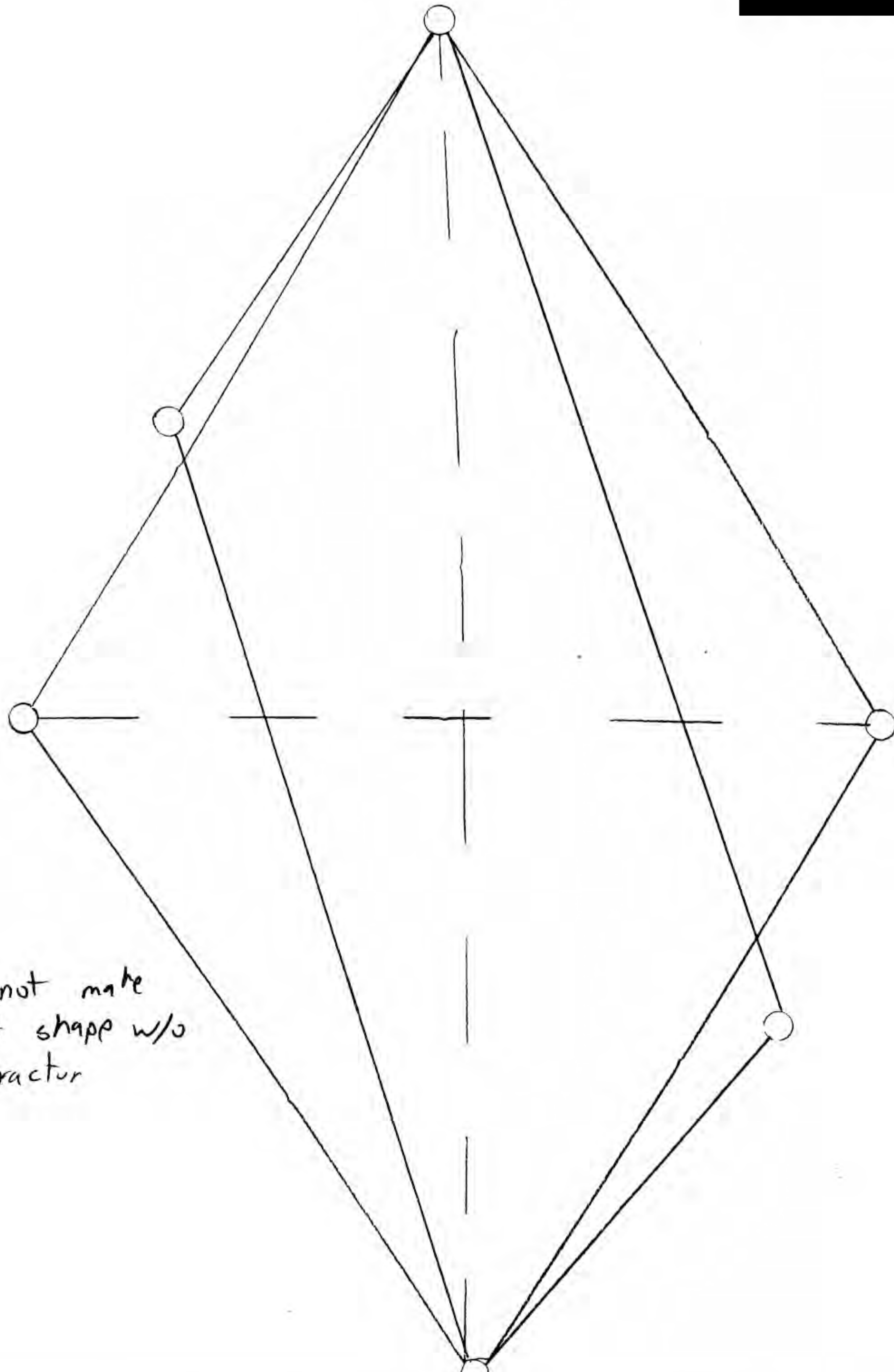


[redacted]

I want to know if the size of the sticks determines what shapes you can make and if there is a way to make a shape with the two anyway

also what sticks will it take to make a dragon rawr!!

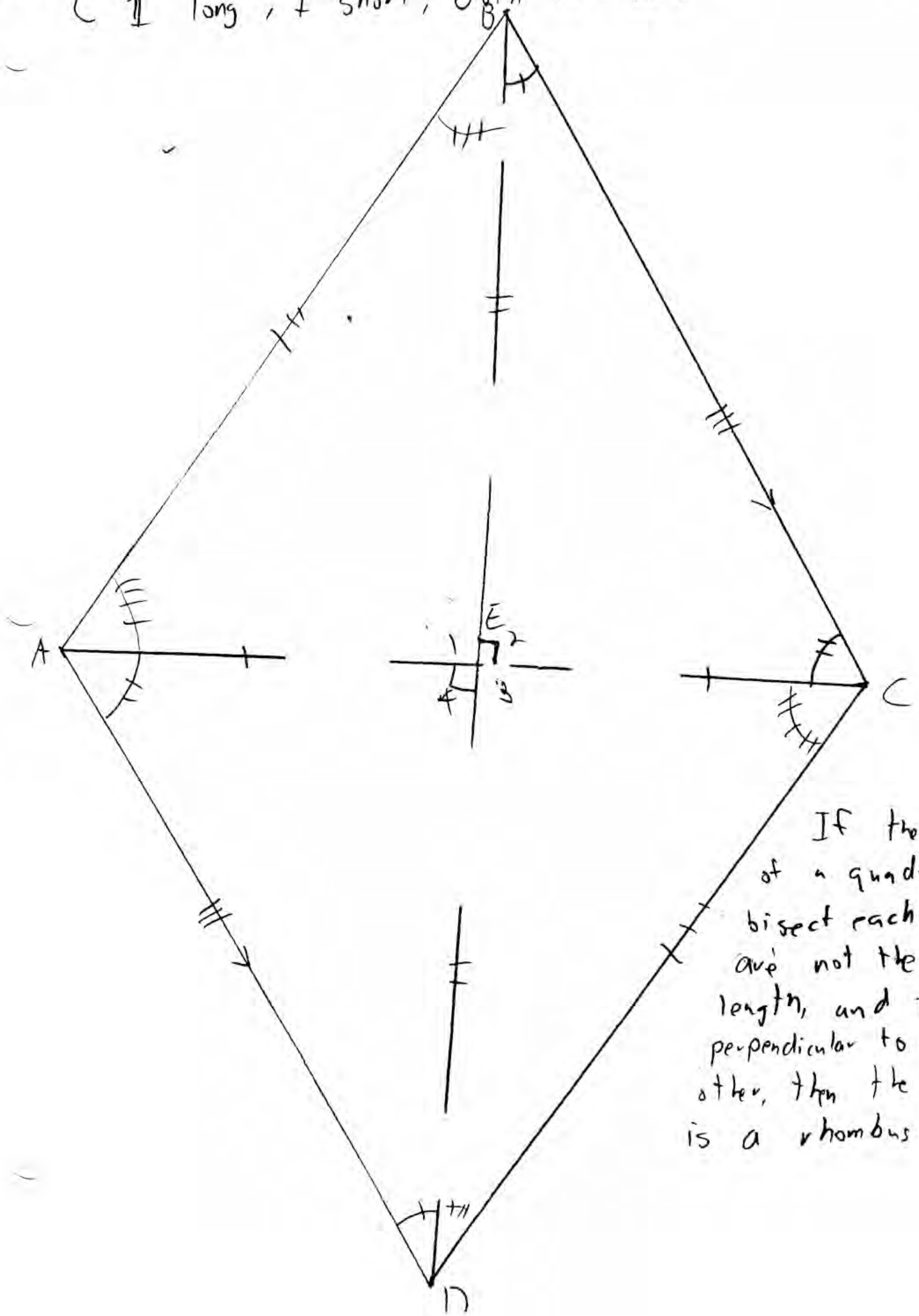
[redacted]



cannot make exact shape w/o protractor

[redacted]

rhombus { w/ protractor @ 90°
{ 1 long, 1 short, both in middle



If the diagonals of a quadrilateral bisect each other are not the same length, and they are perpendicular to each other, then the quadrilateral is a rhombus

[redacted]

1. Take two sticks, one longer and one half its size and attatch them in their midpoints so that the point of intersection is perpendicular. (3)

Rhombus

statement	reason
1. $\angle 2$ and $\angle 4$ congruent	1. vertical angles
*insert here	
4. $\overline{AE} \cong \overline{CE}$	4. division property
5. $\overline{BE} \cong \overline{DE}$	5. division property
6. $\triangle AED \cong \triangle CEB$	6. SAS (2, 1, 3)
7. $\angle ADE \cong \angle CBE$	7. CPCTC
8. $\overline{AD} \cong \overline{CB}$	8. CPCTC
9. $\overline{AD} \parallel \overline{CB}$	9. alternate int. angles congruent
10. $\angle 1 \cong \angle 3$	10. vertical $\angle$s congruent
11. $\triangle AEB \cong \triangle CED$	11. SAS (2, 8, 3)
12. $\angle EAB \cong \angle ECD$	12. CPCTC
13. $\overline{AB} \parallel \overline{CD}$	13. alternate int angles congruent
14. $\overline{AB} \cong \overline{CD}$	14. CPCTC
15. $\triangle ABE \cong \triangle CBE$	15. SAS (4, 2, 5)
16. $\overline{AB} \cong \overline{CB}$	16. CPCTC
17. Quadrilateral ABCD is a rhombus	17. opposite sides parallel (9, 13), adjacent sides congruent (16)

statement	reason
2. $\overline{BD}$	2. given
3. $\overline{AC}$	3. given

[redacted]

1. What do you think you did well in the process of investigating?

I drew really good pictures which made sense to me. I also started on a proof that reminded me what I was doing.

What will you try to do better next time? Why?

I will try to make better observations on my scratch work because although I remember the process and the work I had been doing, there may come a time that I will forget.

[redacted]

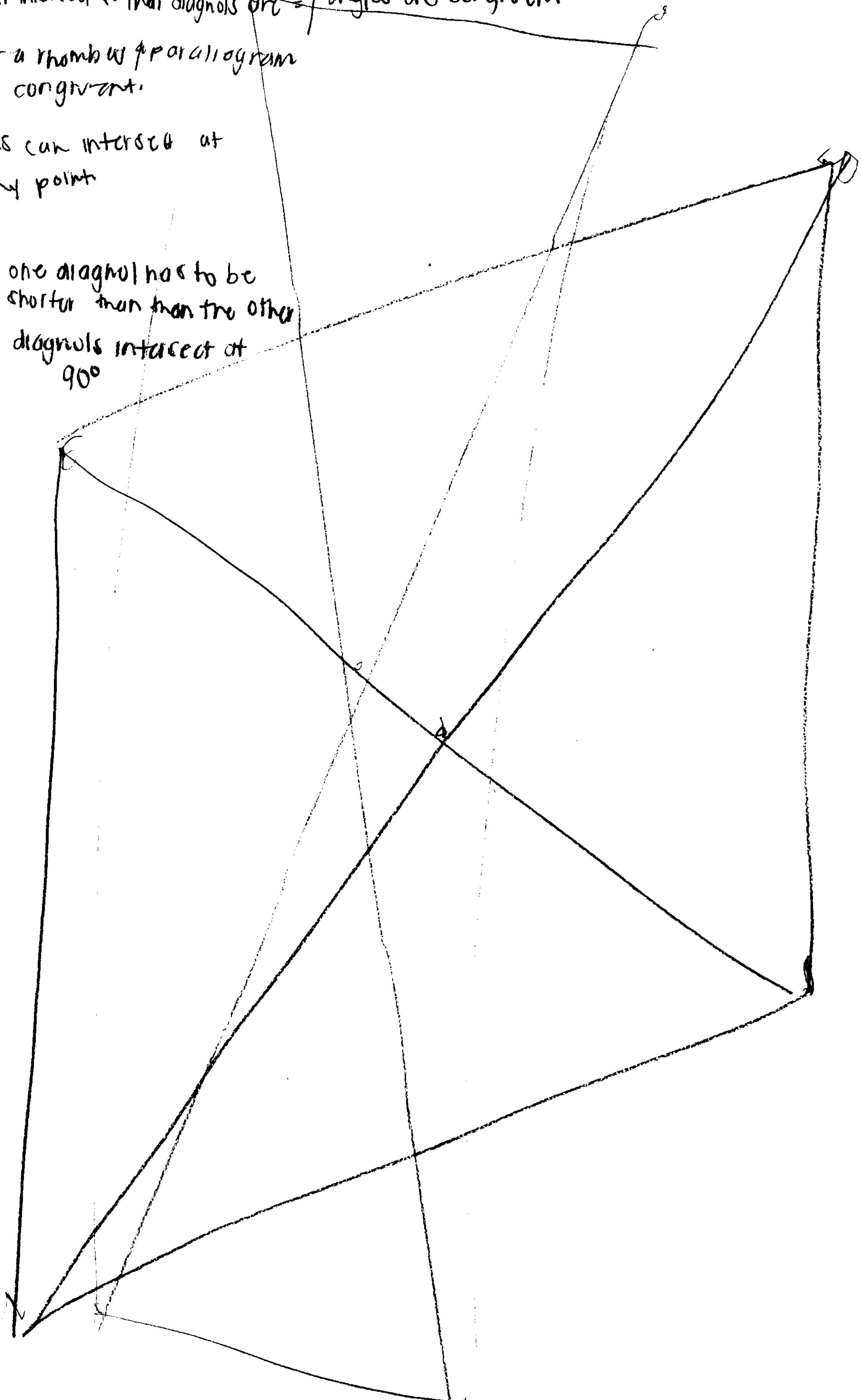
For a trapezoid, lengths of diagnols must be congruent

square - must intersect so that diagnols ~~are~~ ≅ / angles are congruent

angles for a rhombus & parallogram must be congruent.

trapeziums can intersect at any point

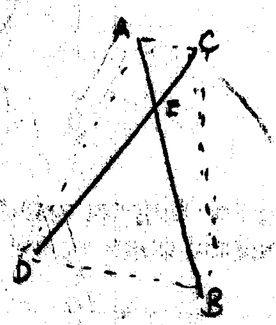
rhombus: one diagnol has to be shorter than than the other
diagnols intersect at 90°



ORI, ARIel, ANNABELLE, CHRIS

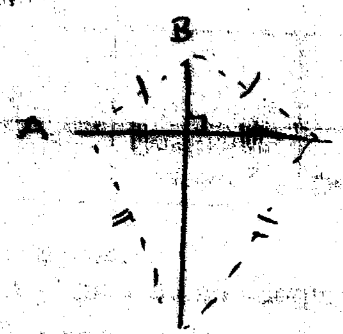
observations

- square can be made from the 2 long "sticks," connected @ the midpoint.
  - diagonals have to intersect @ 90°
- rectangle is created by two congruent "sticks", but the angle @ which the diagonals intersect doesn't matter.
- isosceles trapezoids are created by 2 long "sticks", and have to intersect at a point that is not the midpoint. The segments created must be congruent.



$\overline{AE} \cong \overline{CE}$
$\overline{DE} \cong \overline{BE}$

- rhombus are created by a long and short diagonal, must intersect @ their midpoints, and intersect @ 90° angles.
- parallelogram are just like rhombuses, but don't have to intersect @ 90°
- Kites can be made from a long and ~~short stick~~, or two long sticks. the diagonals must be perpendicular, and line B must intersect line A at line A's midpoint, but they can't intersect @ line B's midpoint.



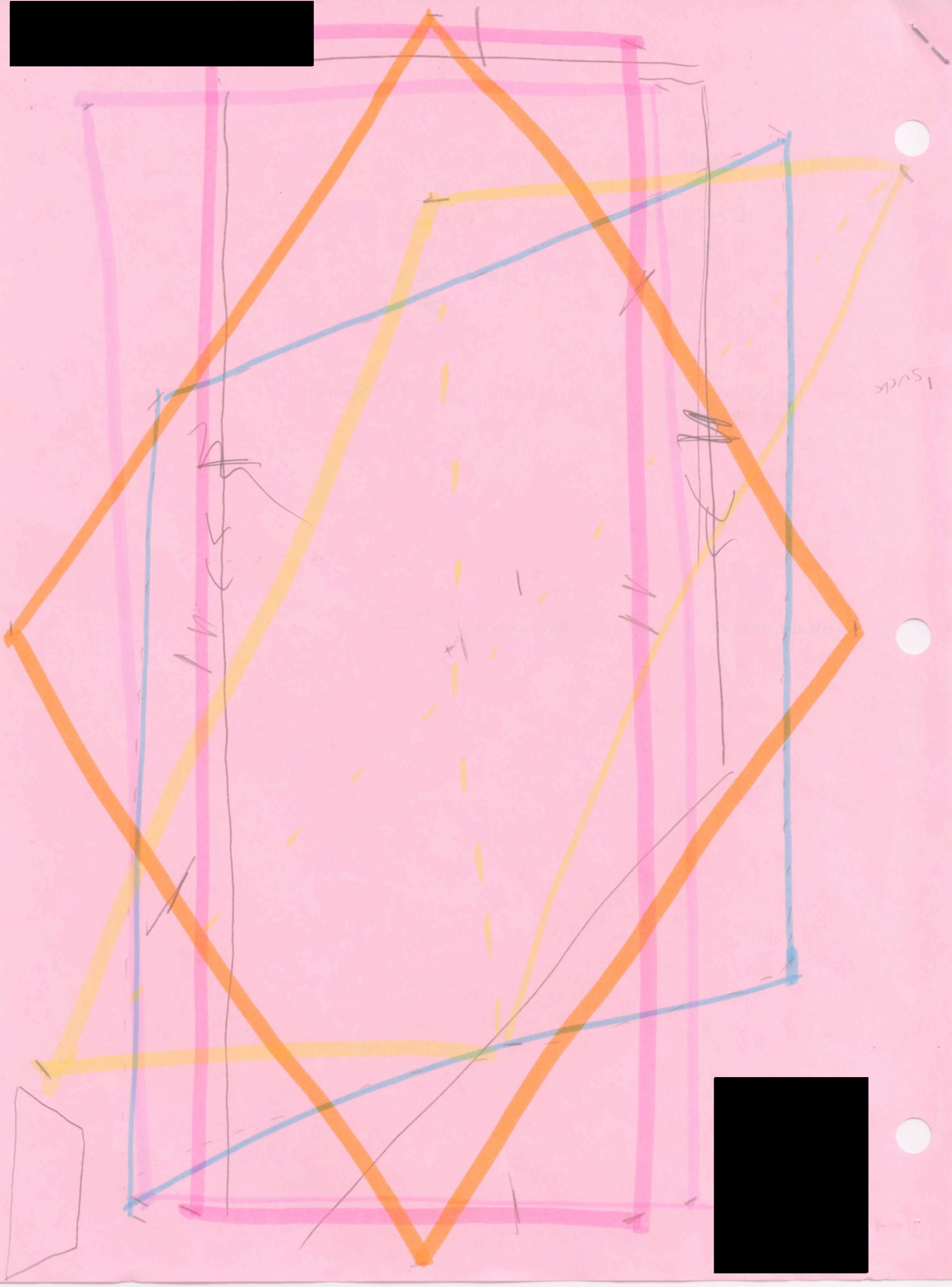
- trapezium,

[redacted]

How does knowing the exact arrangement of the sticks help with the kite?

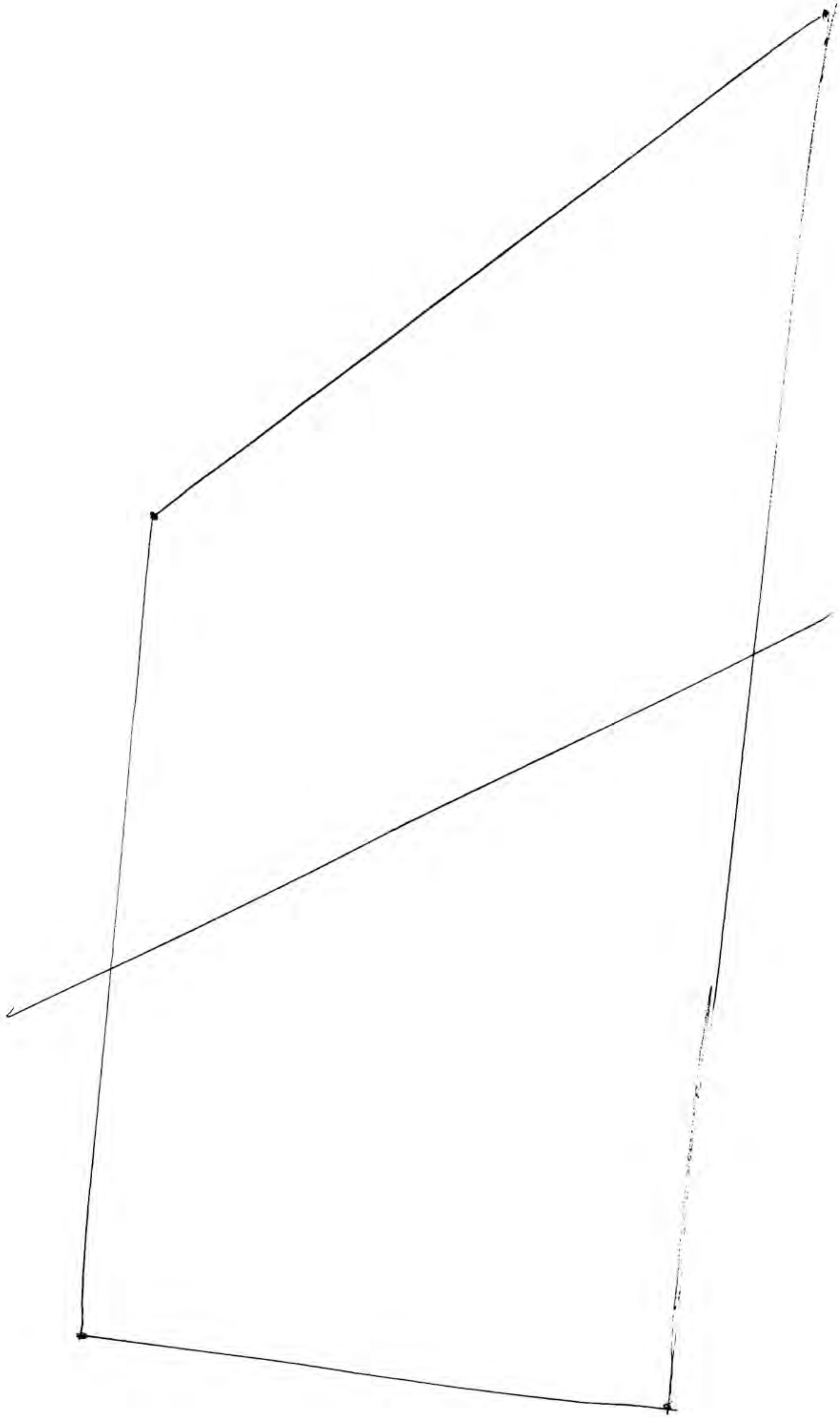
I wrote down my ideas and thoughts that were going through my head, which I thought was good tinkering. I believe I could have wrote down the questions that were going through my head also and drew more pictures.

[redacted]



[redacted]

This material accompanies a videotaped lesson on Inside Mathematics (www.insidemathematics.org): Decimal Place Value: Public Lesson. Austin, Texas: the Charles A. Dana Center at The University of Texas at Austin.

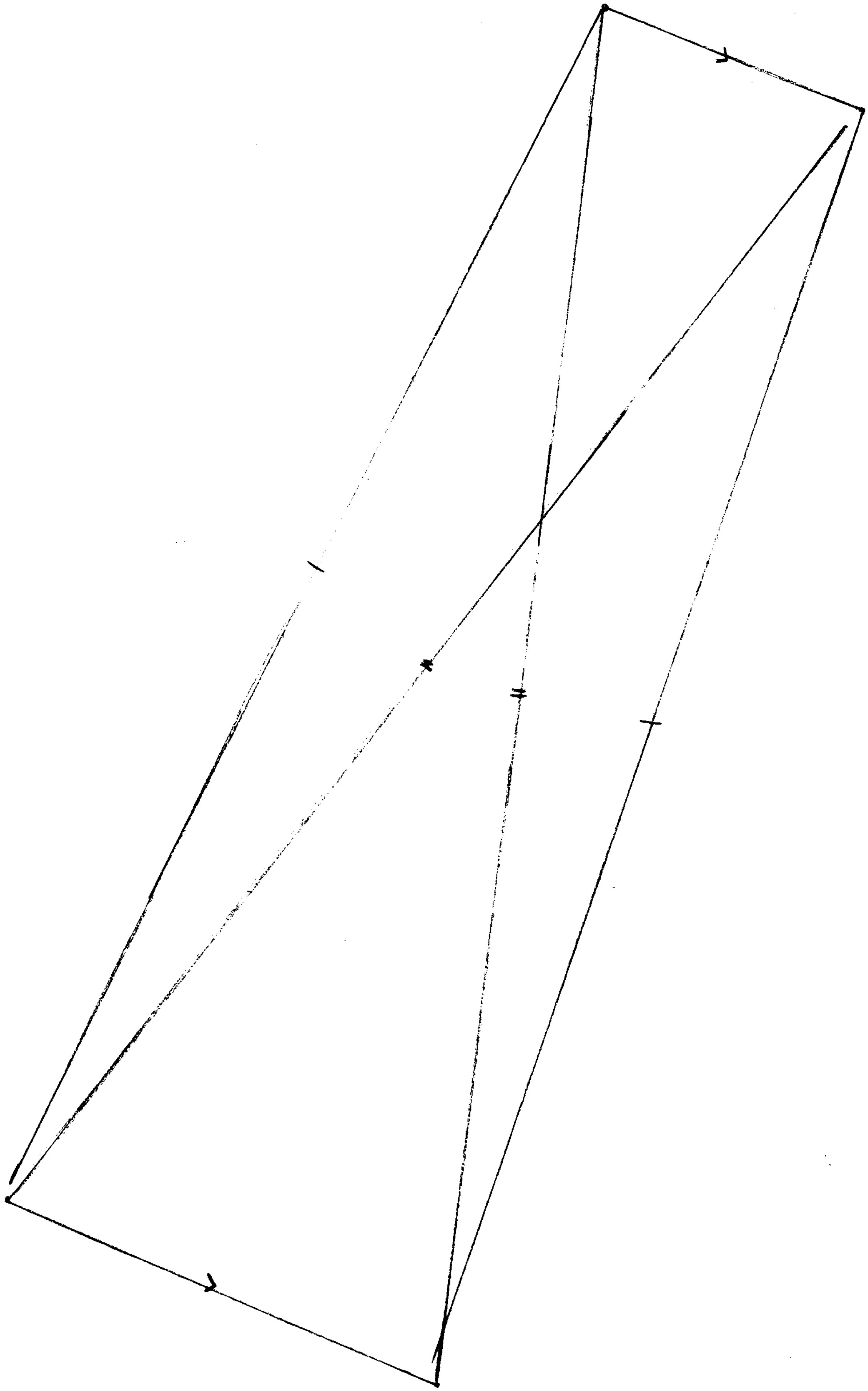


[redacted]
B1. March 3, 09

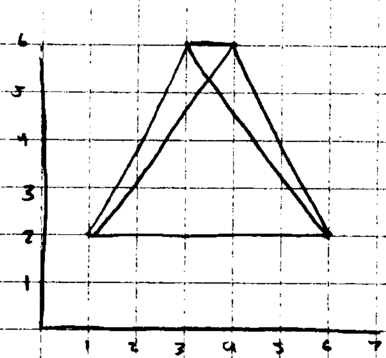
How can my group a myself figure out a constant method to creating a regular trapezoid out of the given diagonals?

I think I did well deciding which "sticks" created what shape. However, when it was individual work time I didn't really understand the prompt. But once I did I was very active in our group discussions. Next time I will wright down more notes on my tinkering sheet, to keep my thoughts fresh.

Did I do it right?

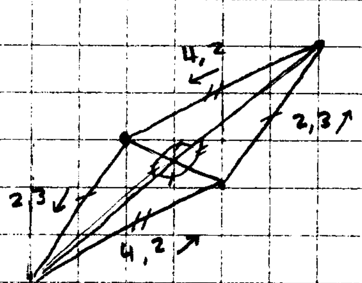


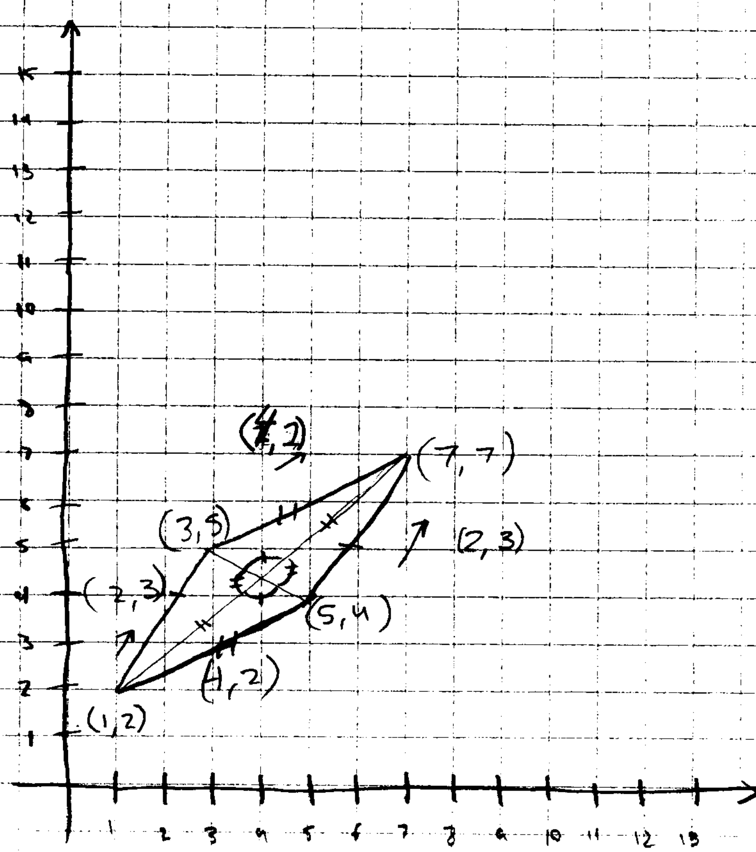
[redacted]



Statements:

m ED is 0	slope formula
m FG is 0	slope formula
ED ∥ FG	slope area =
□DEFG is a trap	def of trapezoid

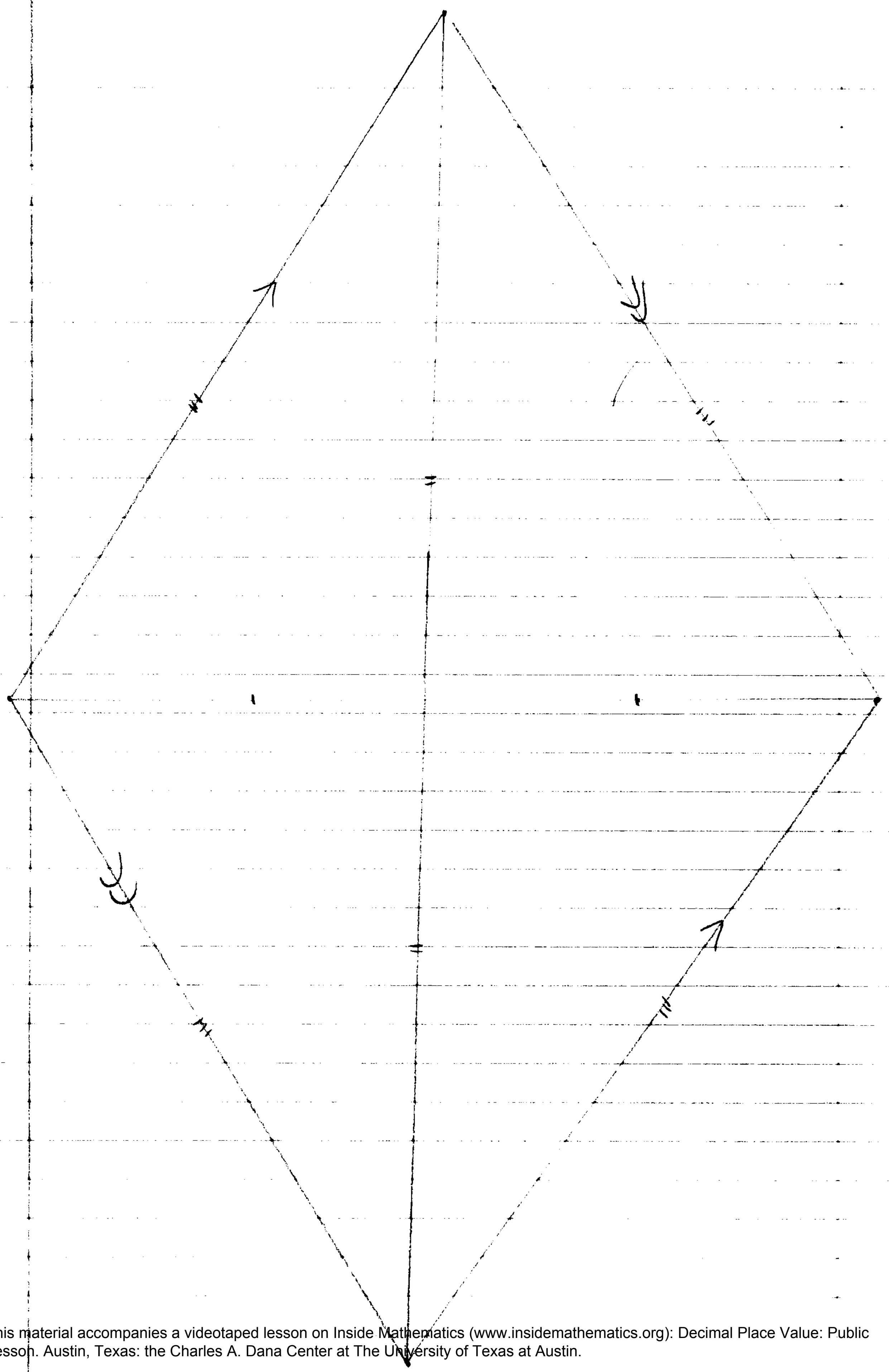


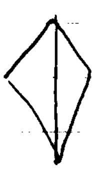


This material accompanies a videotaped lesson on Inside Mathematics (www.insidemathematics.org): Decimal Place Value: Public Lesson. Austin, Texas: the Charles A. Dana Center at The University of Texas at Austin.

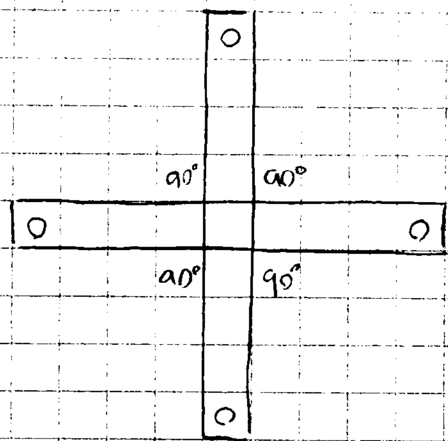
2 yellow center, w/ 4 90 $\angle$'s (square)
1, 1 pink center, w) 4 90 $\angle$'s (rhombs)

2 long (square)
1 short (rhombus)
2 long





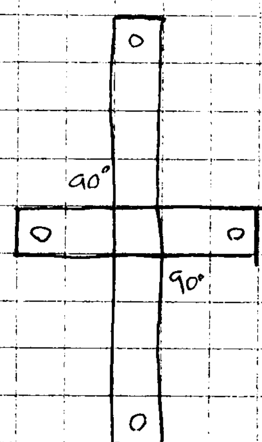
Square



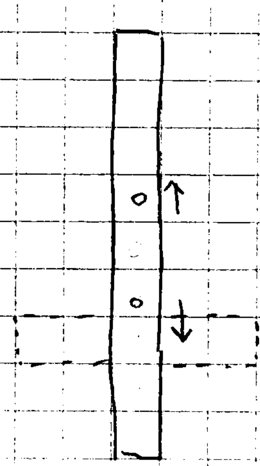
Is II

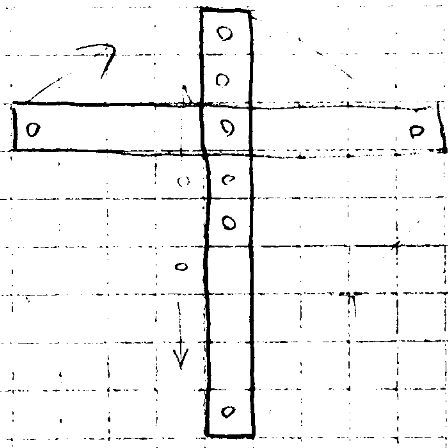
Must be in center of both diagonals

Rhombus



Kite





(3) 2 long (square, rhombus, parallelogram)

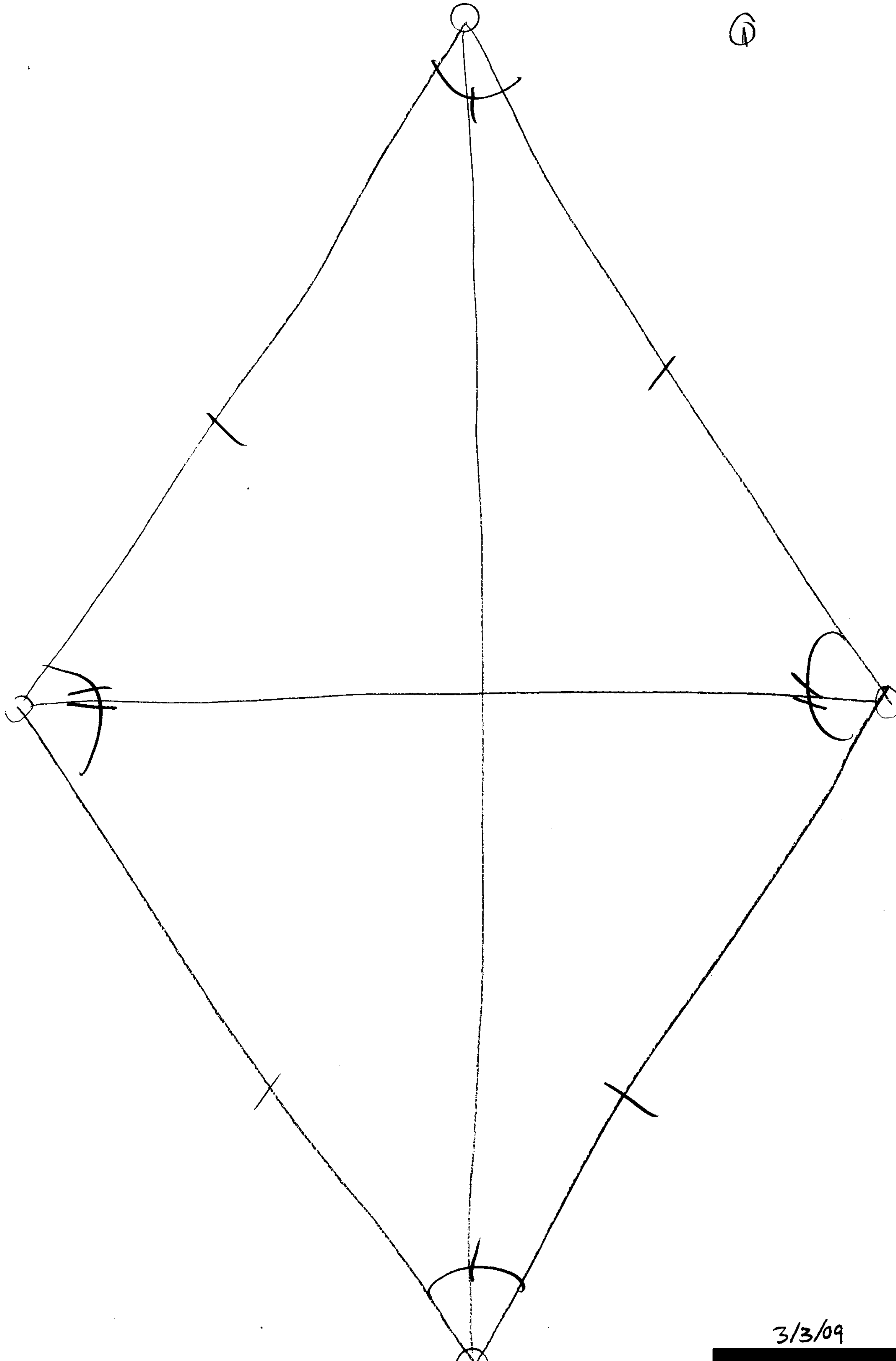
2 longs

center of both creates (square, rhombus, parallelogram)

center of one creates (kite)
center (none)

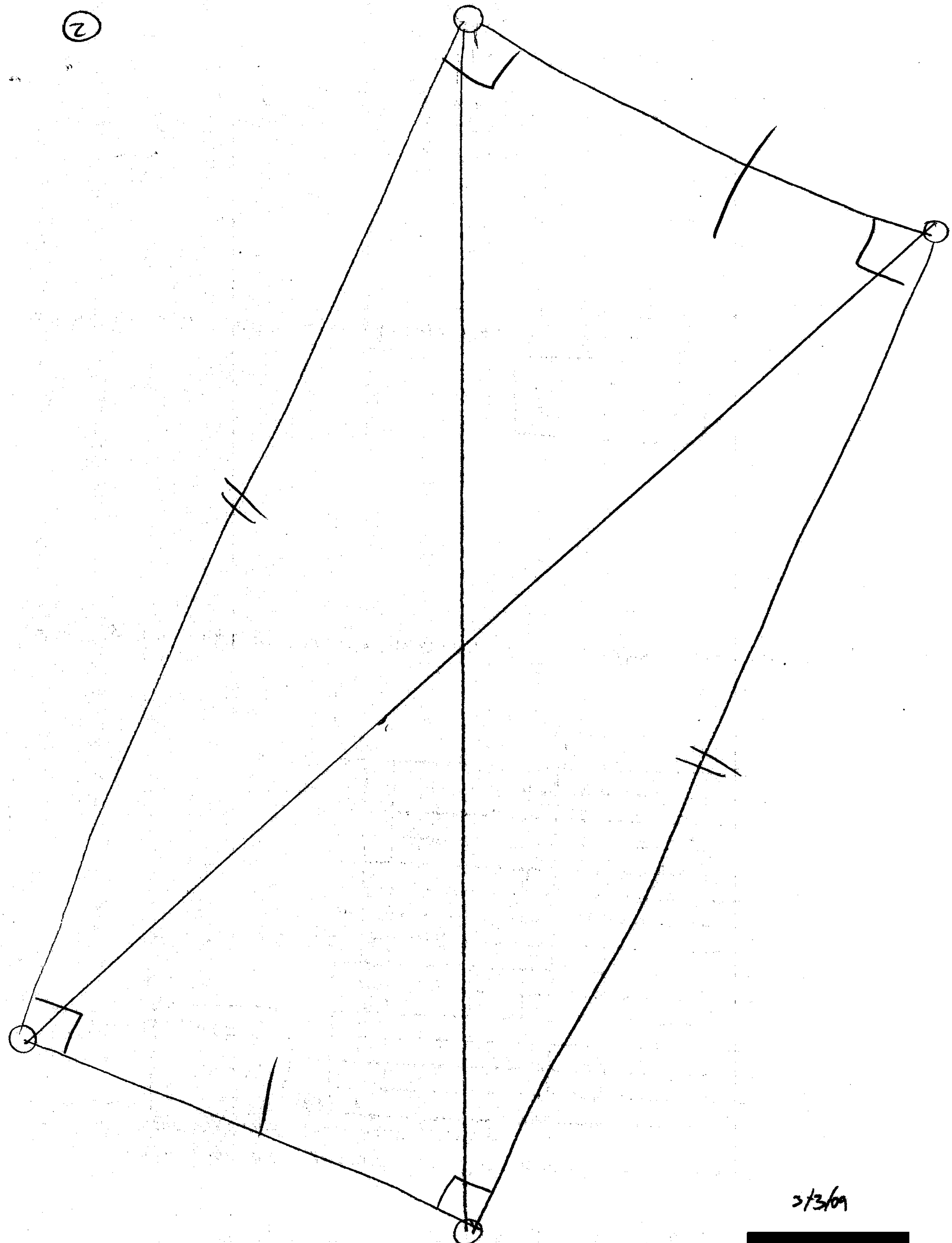
Same point on both above center (Trapezoid)

How can I prove that the kite maker is going to get the correct measurements, when you can't prove that any of the quadrilaterals made are congruent, ~~or~~ for you don't know exactly what the angles are and if segments are parrallele. For one can't assume with the naked eye.



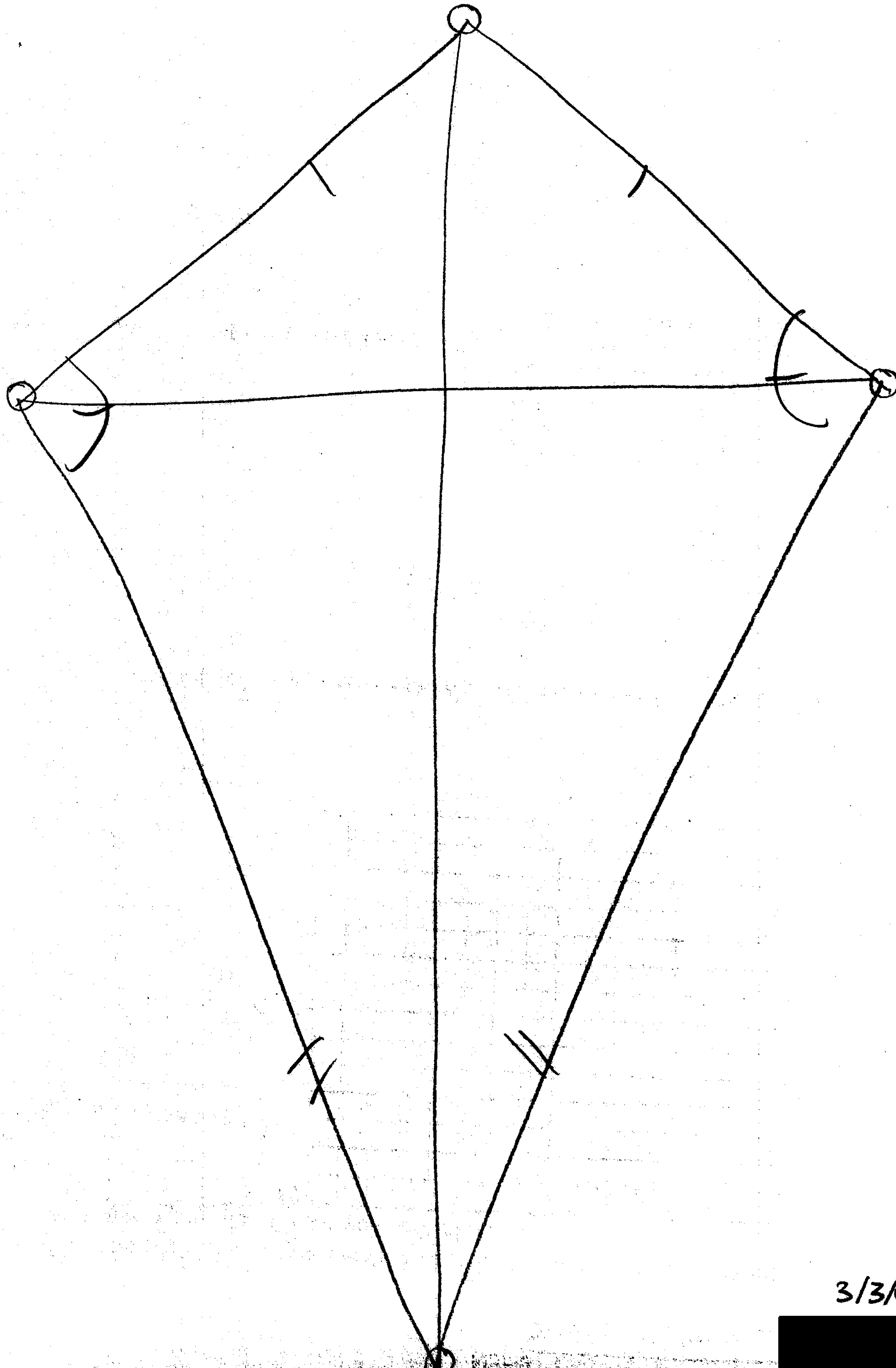
3/3/09

②



3/3/09

3



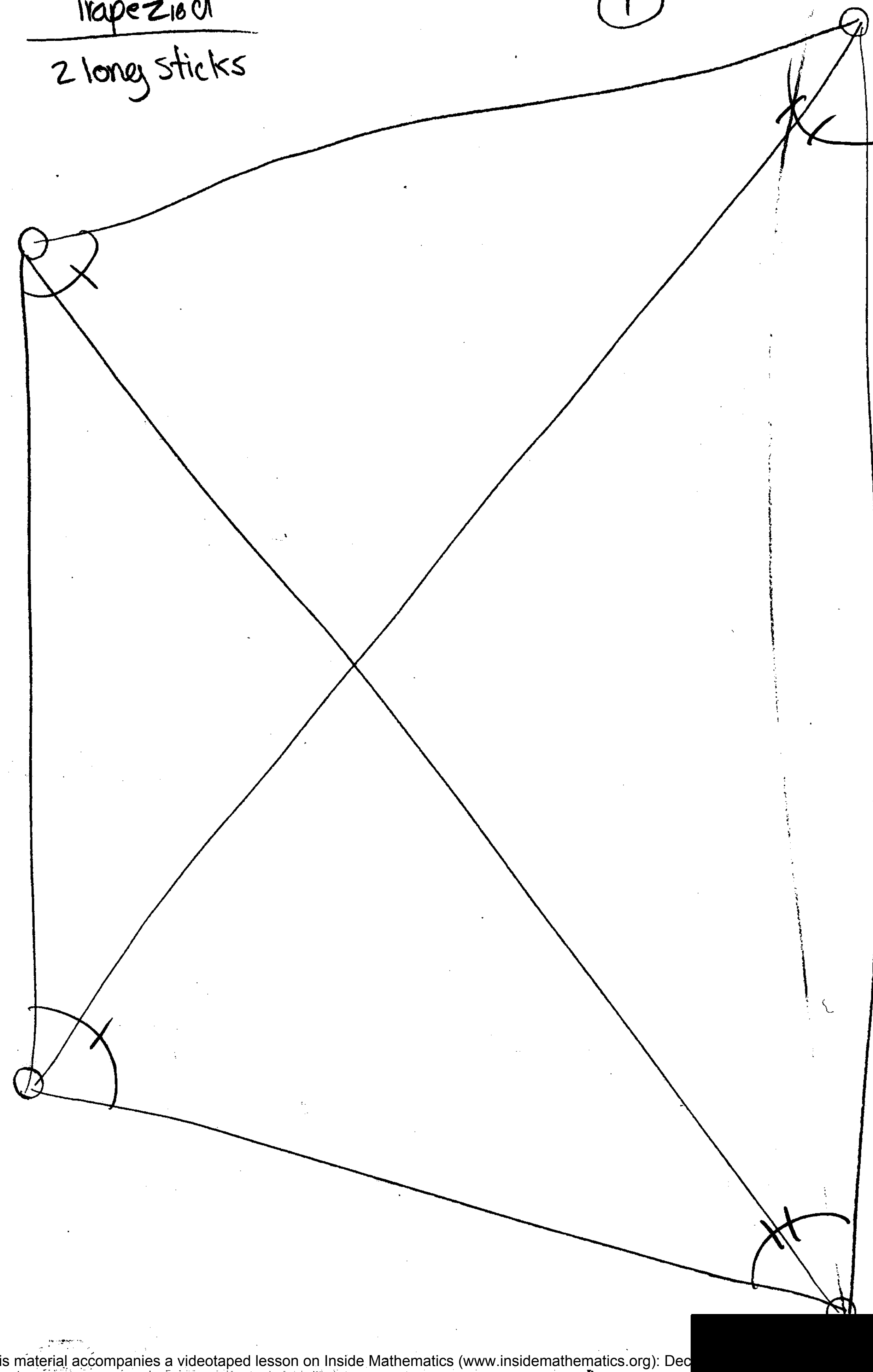
3/3/09

[redacted]

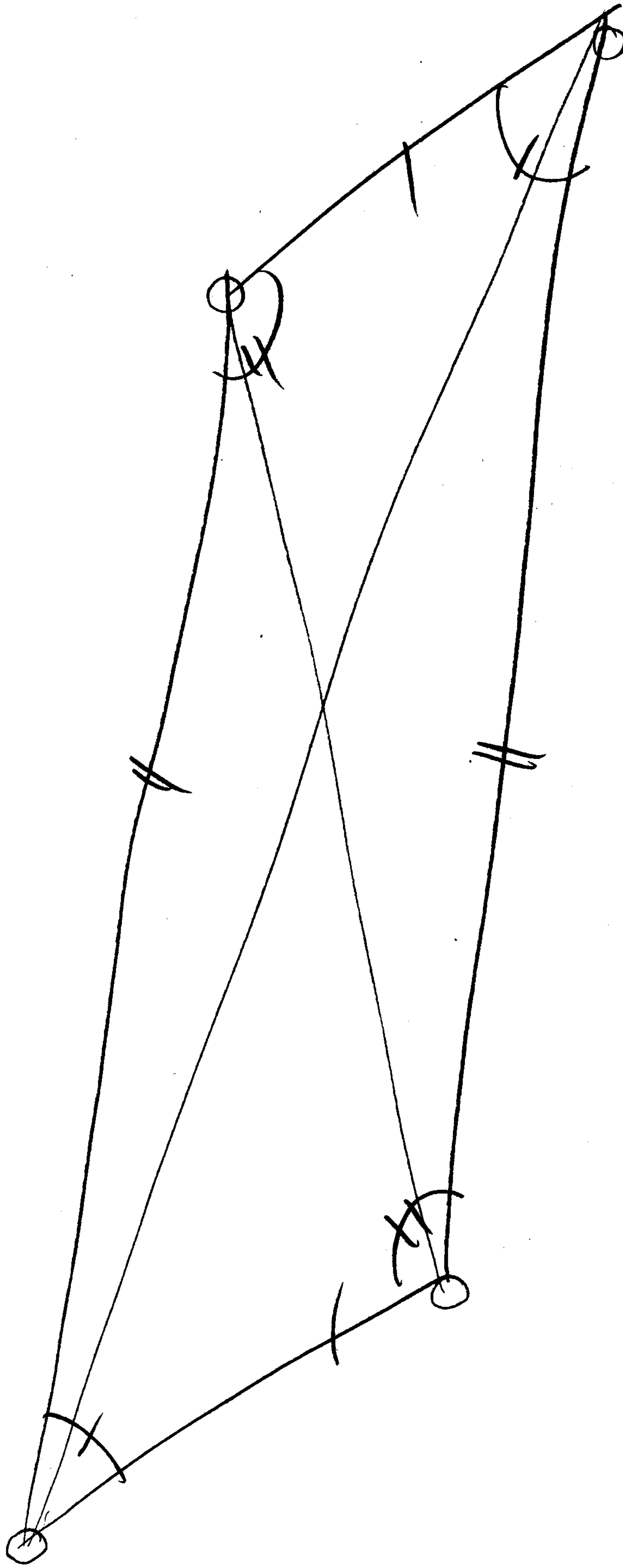
Trapeziod

2 long sticks

(4)



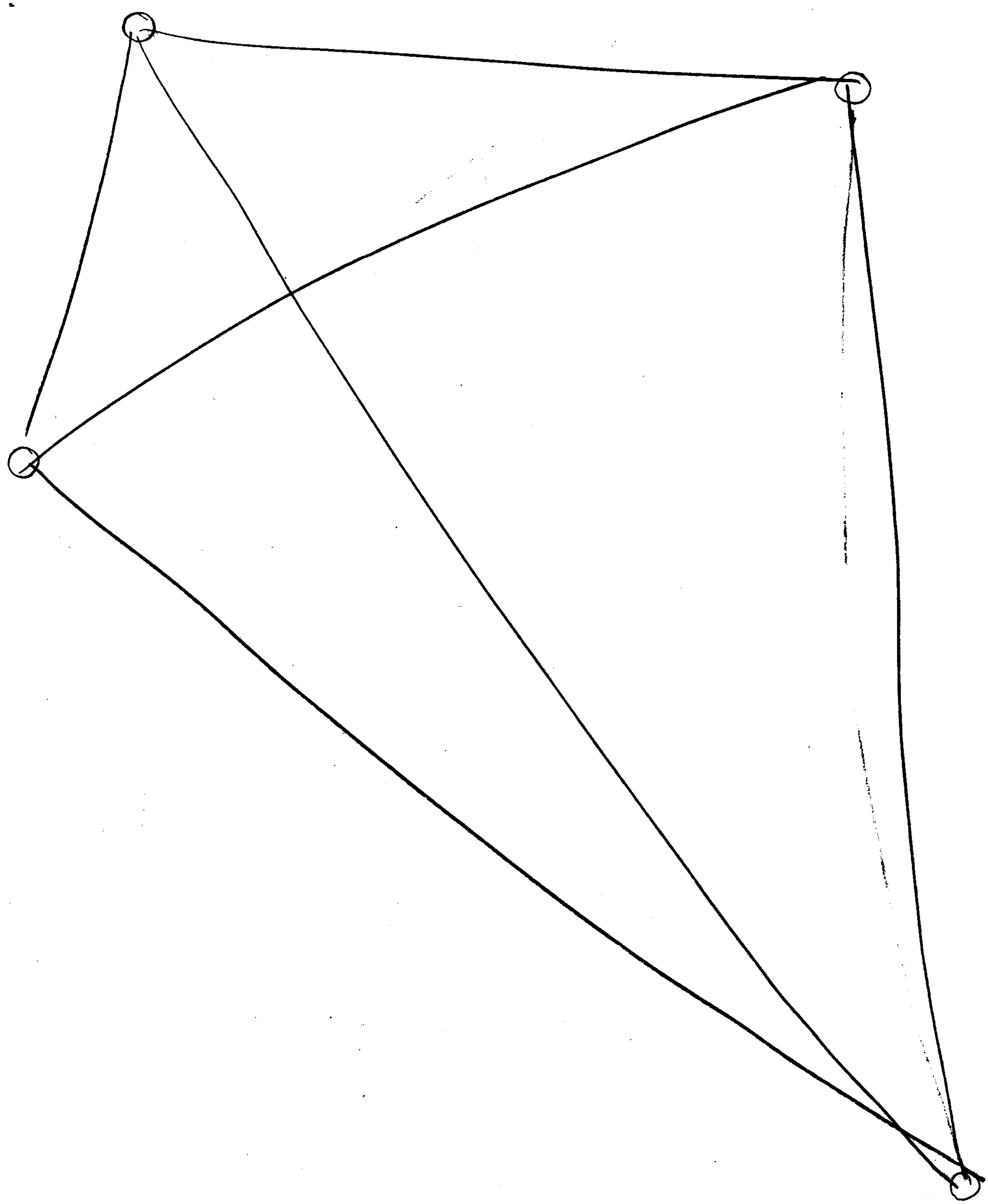
 3/3/09



[redacted]

5/3/09

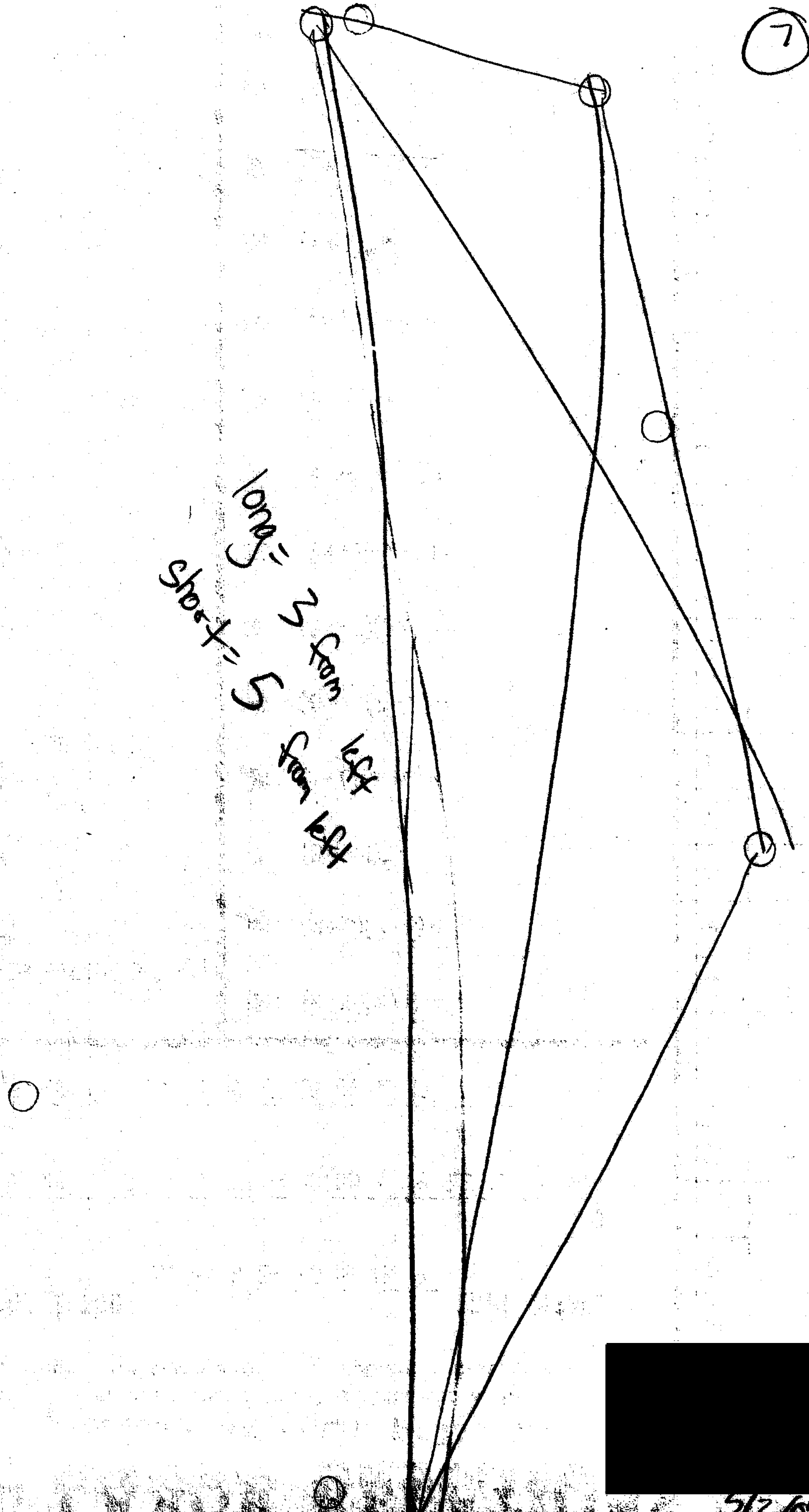
6



[redacted]

3/3/09

7



[redacted]

5/2/09

[redacted] 5/3/09

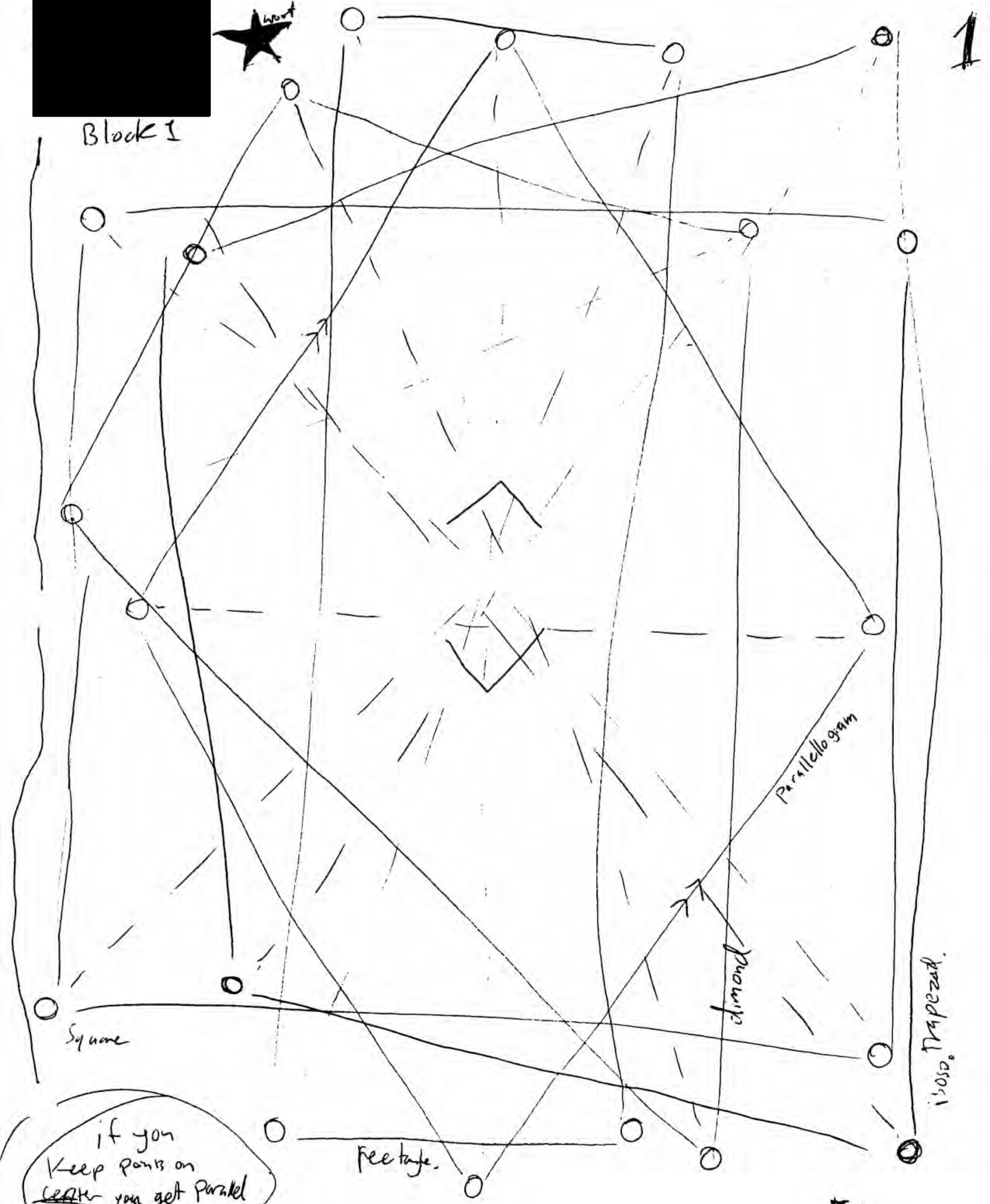
I wonder if we figured out how to make every type of quadrilateral that is possible with these sticks.

What I think that I did well is try to move and turn the sticks a lot, so I could try lots of ways of making a shape.

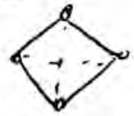
What I could improve on is to try every possible notch, stick, and angle arrangement.

I beleive that I set my info. up correctly for
I put it into an orderly fashion and the
classified it at the end. I need to write
more so I can prove my theory to a sceptic,
not myself,

[redacted]


woot
Block I
1
Paralellogram
diamond
isoso. Trapezoid
Square
Free tape.
if you
Keep poins on
center you get parallel

2 long ones

Square 

rectangle 

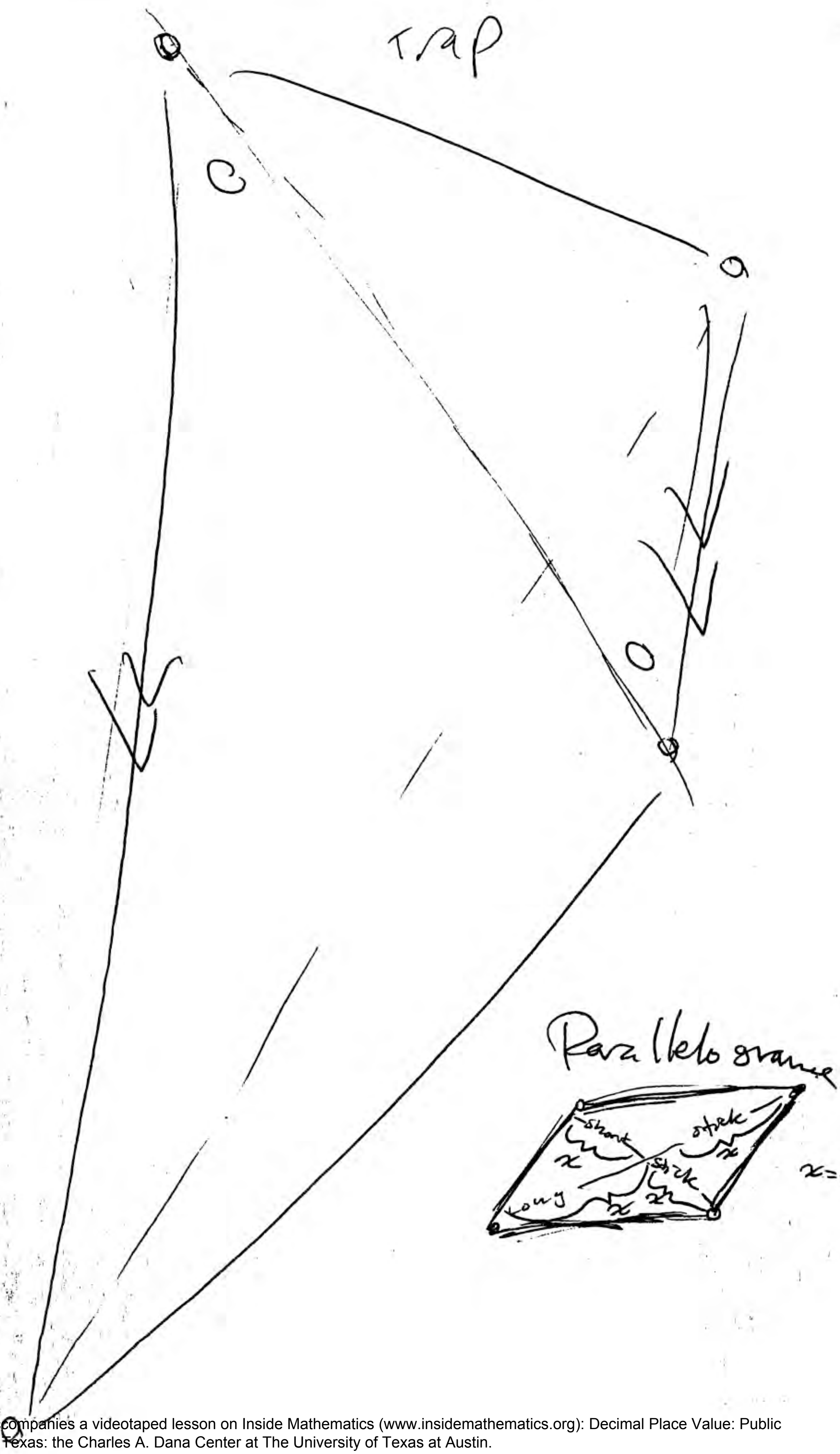
isosceles trapizoid  

Kite 

↙Trapezium

If you Keep the intersecting point the same distance from the ends then the quadrilateral will have a pair of parallel lines. (if it is centered on both then it makes 2 pairs of parallel lines)

3



x=x=x=x

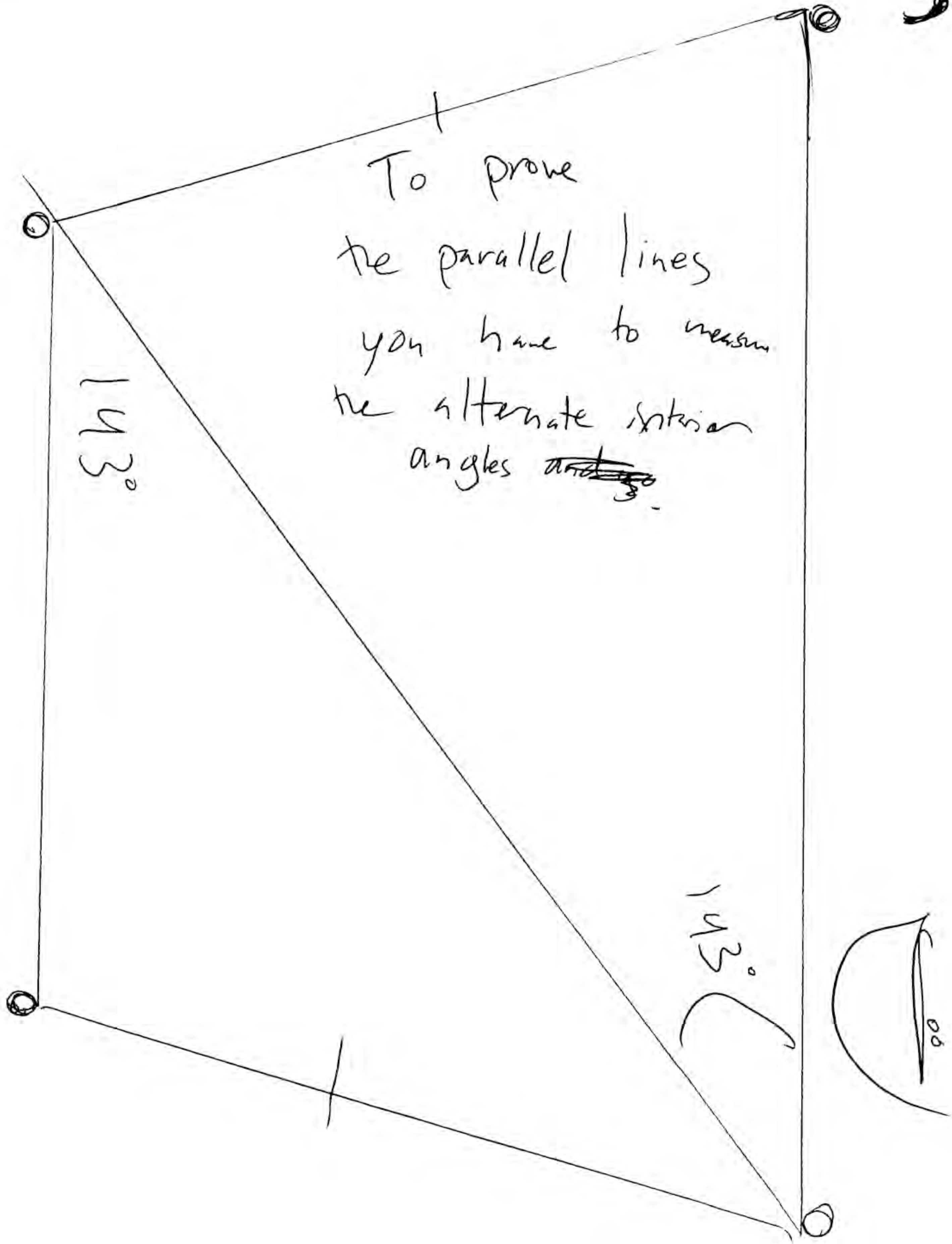
Conjecture

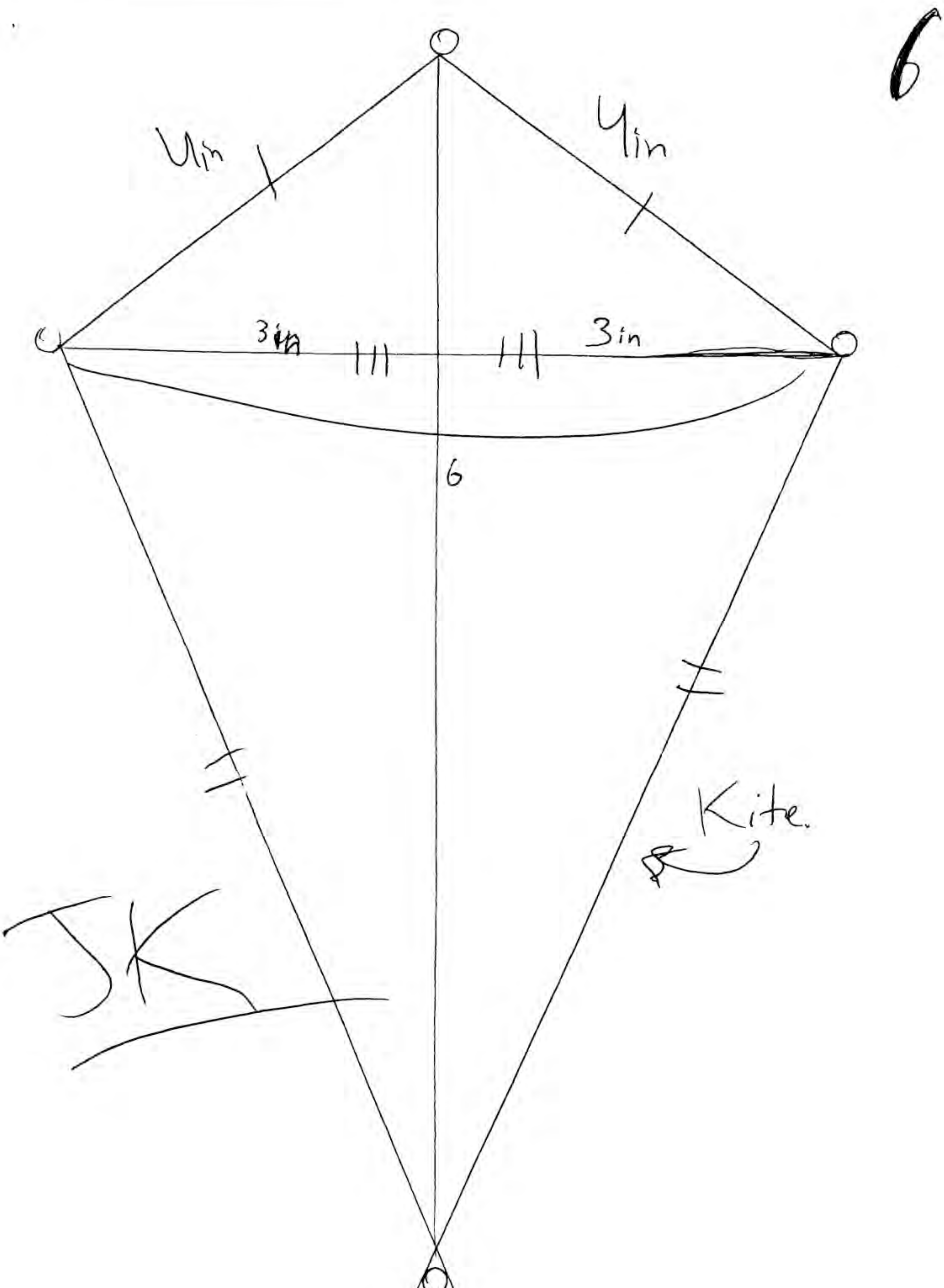
Square: Keep both 2 long sticks equadistant (centered) and at a 90° ∠.

Rectangle: Keep both long sticks equadistant (centered and at any ∠ expt 90° and 180°

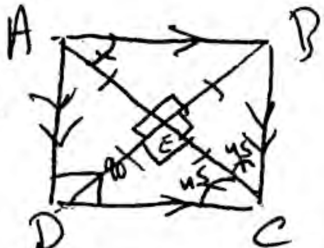
Isosceles trapezoid: Keep both Long sticks equadistant from the ends and at any ∠ expt 180°

To prove the parallel lines you have to measure the alternate interior angles ~~and~~.




6
4in
4in
3in
3in
6
Kite.
JK

Square ♡



If the diagonals are ⊥
and they intersect at the midpoint
and the diagonals are the same length

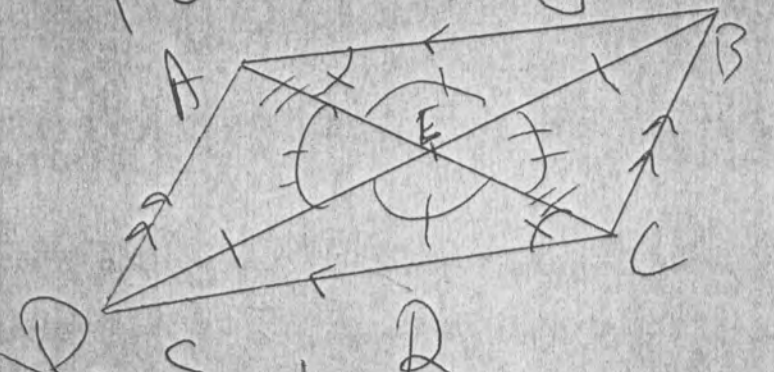
Then the quadrilateral is a Square

S	R
the Given	given
△ DEC ≅ △BEA	SAS
∠EAB ≅ ∠ECD	cpctc
$\overline{AB} \parallel \overline{DC}$	alt interior ∠s.
△ AED ≅ △CEB	SAS
∠ADE ≅ ∠CBD	cpctc
$\overline{AD} \parallel \overline{BC}$	alt interior ∠s.
∠ADC = 90° ∠ABC = 90° ∠DAB = 90°	isosceles triangles have 2 congruent ∠s and the vertex ∠ is 90 so the 2 other ∠s are 45°

Parallel

S	R
$\overline{CD} \cong \overline{AB} \cong \overline{BC} \cong \overline{DA}$	cpctc.

Parallelogram



S	R
Diagonals ∅ intersect @ midpt.	given (2 parallel lines)
Diagonals ∅ ⊥	given (it would be a kite.)
Diagonals = 2 diff lengths	given (if same then it is a rectangle).

TADA!

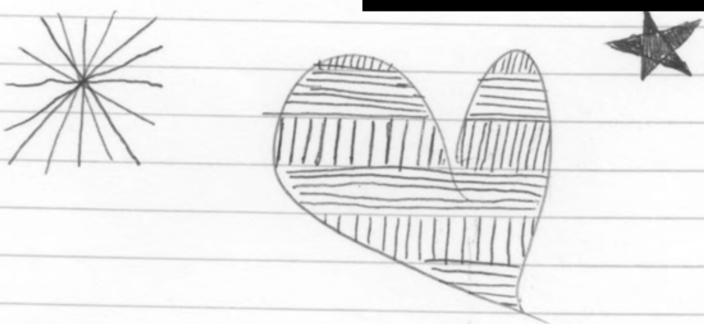
add the givens in.

R	S
1. $\triangle CED \cong \triangle AEB$	1. SAS
2. $\angle DCE \cong \angle BAE$	2. CPCTC
3. $\overline{AB} \parallel \overline{DC}$	3. Alt. interior ∠s.
4. $\triangle BEC \cong \triangle DEA$	4. SAS
5. $\angle EAD \cong \angle BCE$	5. CPCTC
6. $\overline{AD} \parallel \overline{BC}$	6. Alt. interior ∠s.

My Question.

I am wondering why it works when you keep all the lines equadistant from the ends (you get parallel lines).

~ [redacted]



This material accompanies a videotaped lesson on Inside Mathematics (www.insidemathematics.org): Decimal Place Value: Public Lesson. Austin, Texas: the Charles A. Dana Center at The University of Texas at Austin.

I think that all the diagrams I drew were useful and helped alot.
Next time I should write more observations on the side.

trapezoid = there has to be a pair of parallel lines so the pair of dots opposite from each other must be parallel

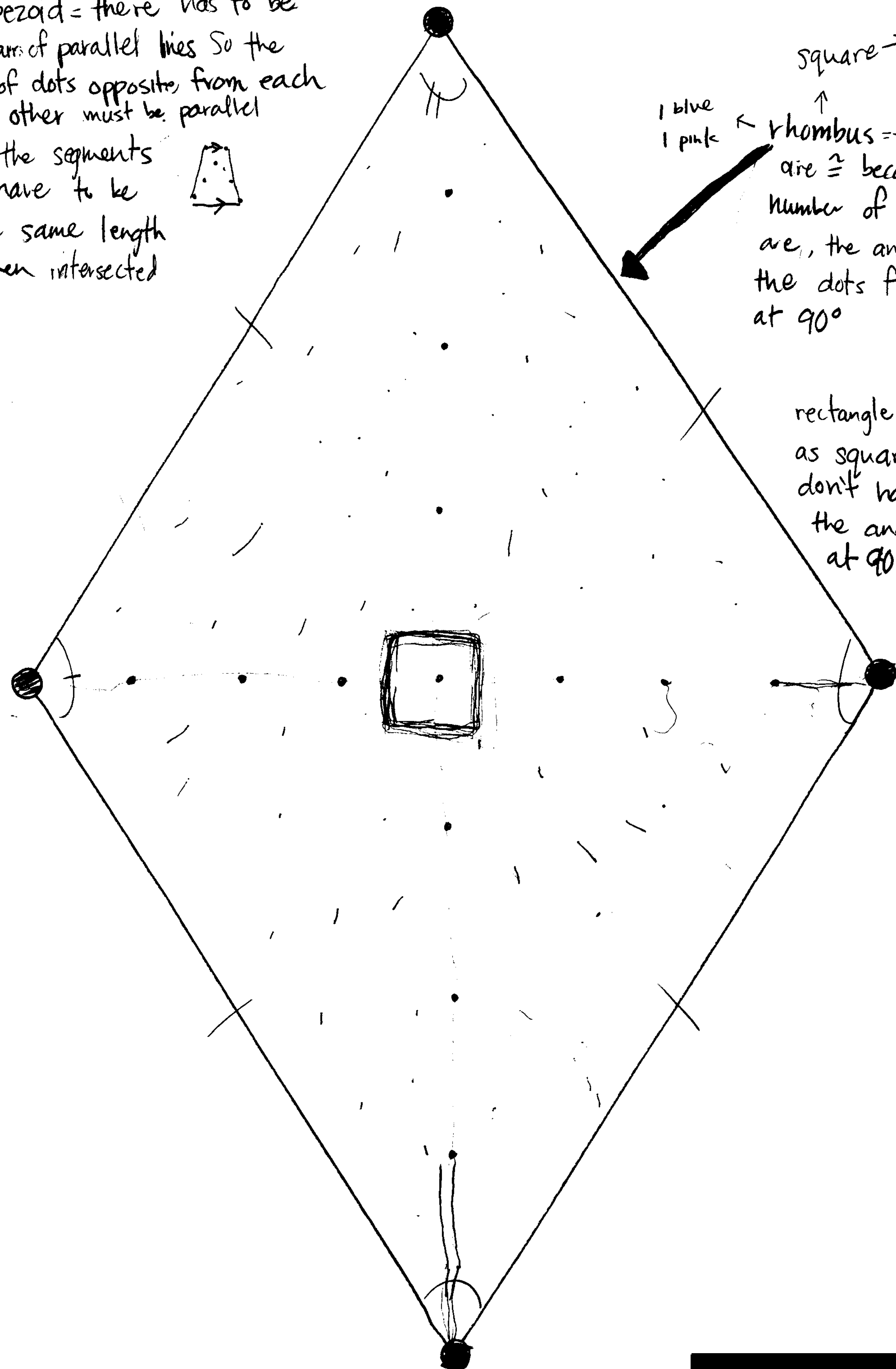
the segments have to be the same length when intersected

square → both blue

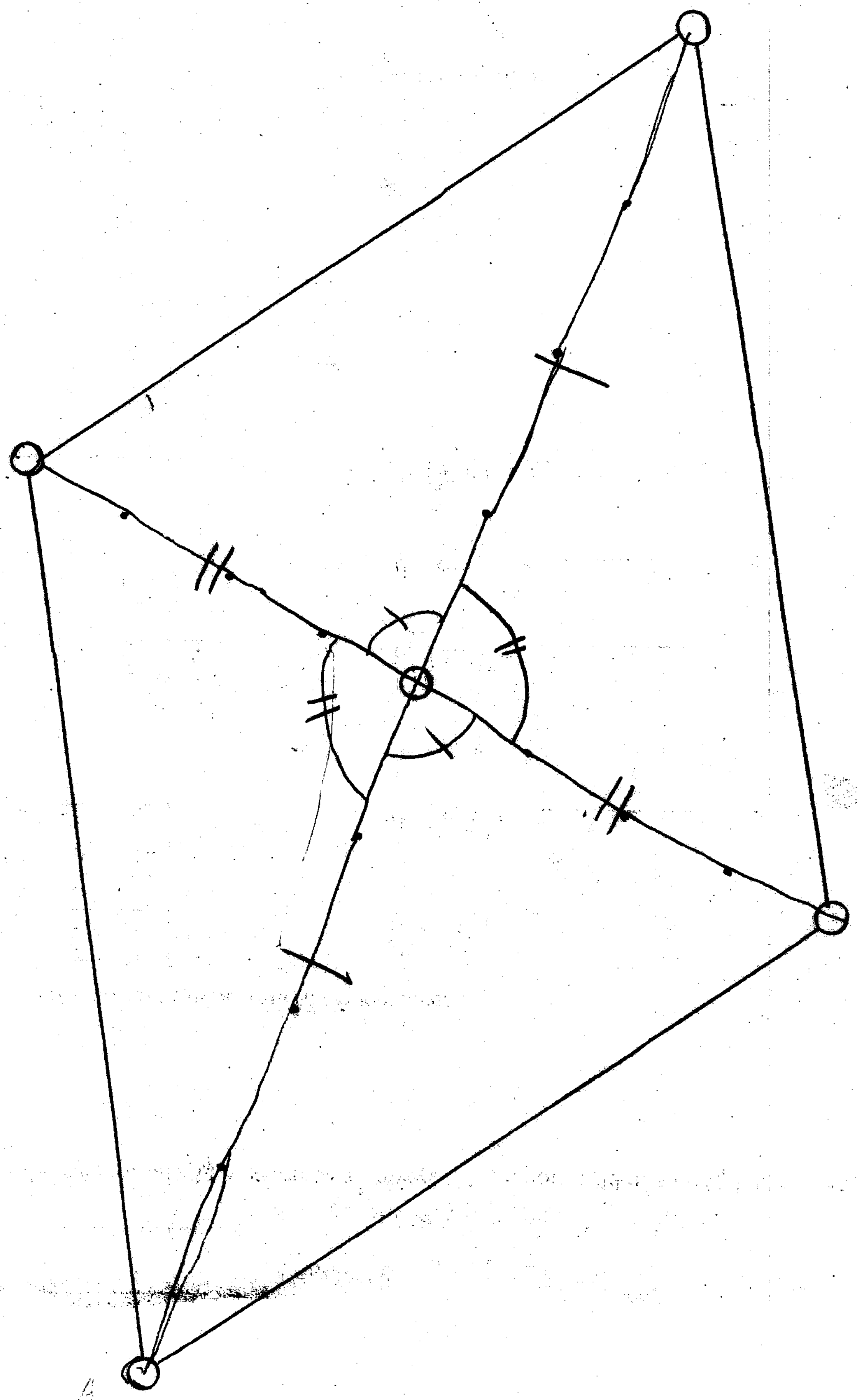
↑

1 blue
1 pink ← rhombus = two sides are ≅ because of the number of dots there are, the angles that the dots form intersa[ct] at 90°

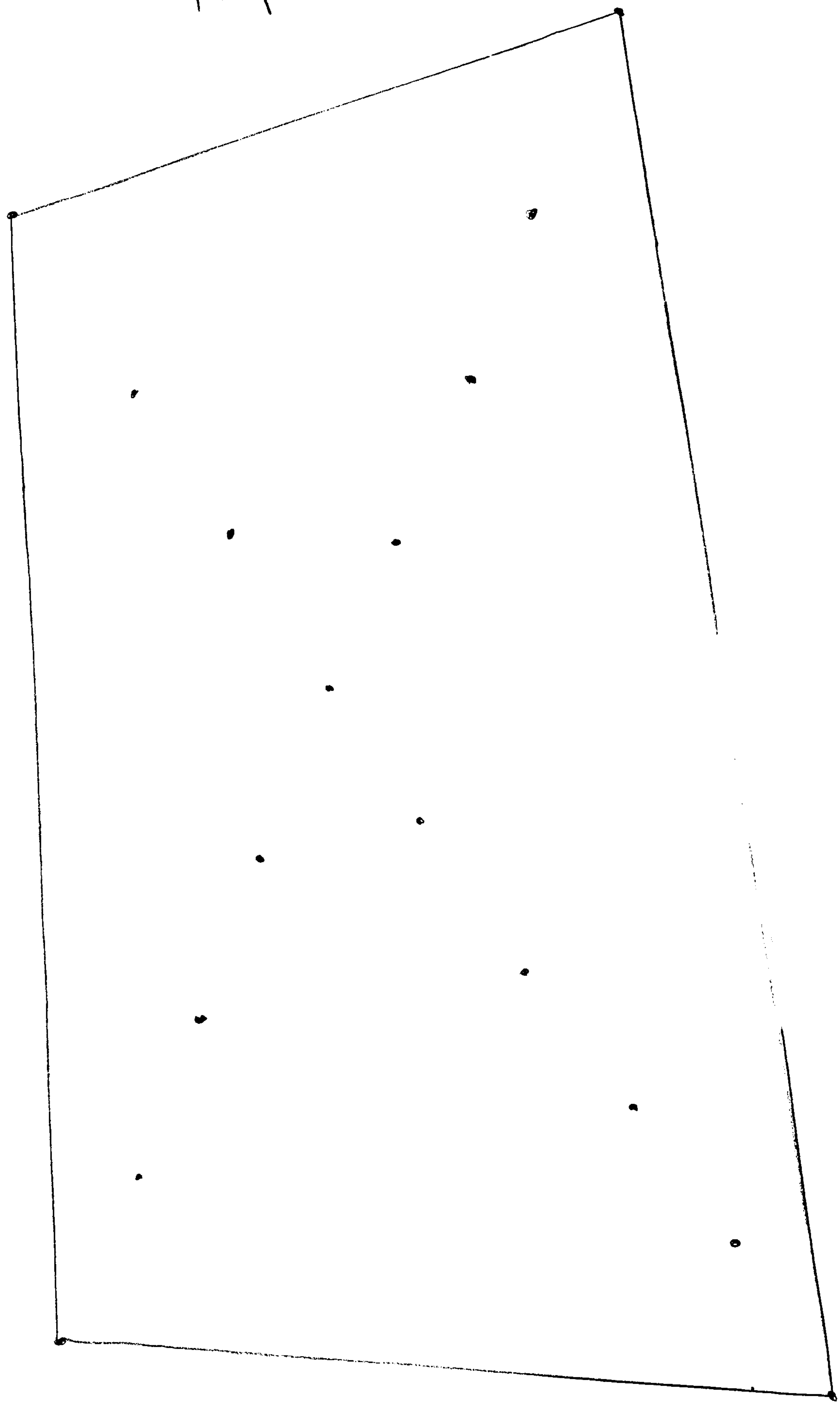
rectangle is same as square but you don't have to have the angles intersec[t] at 90°



parallelogram



Trapezium



[redacted]

Do the measures matter by the segments or by the dots?

What I think I did well: I think I did well in visualizing and sketching out the quadrilaterals. I also think I did well helping the group with discussing the problem.

Where I think I could improve: I think I can improve in explaining the problems more. And explaining what I found out better.