Oakland CUSD #5

Geometry

April 20-24, 2020

Emily Myers

Week of April 20-24, 2020
Ms. Myers

Hello everyone. Choose 2 of the following activities for the class you are enrolled in to complete for this week. All assignments may be turned in via google classroom. Take a picture or scan it in and turn it into the corresponding assignment. Or you may turn in paper copies to the office and they will get them to me. Both choices are due by Monday, April 13 at noon. Be sure to write whatever choice you are doing at the top of your page.

I will be at my computer for questions on Tuesday 10a-12p, Wednesday 3p-5p & Thursday 12p-2p.

Class	Choice 1	Choice 2	Choice 3	Choice 4	Choice 5
Algebra 2	Water Park Project Show all work!	Page 944 Lesson 1.6 #16-38 Show all work!	Page 945 Lesson 1.7 #7-26 Show all work!	Page 950 Lesson 3.2 Show all work!	Sharing Marbles Show all work!
Algebra 3/Trig	Complete the assignment that was assigned on Khan Academy.	Page 969 Lesson 9.2 Show all work!	Page 968 Lesson 8.7 even Show all work!	Page 968 Lesson 8.8 #1-18 Show all work!	Patterns in Pascal's Triangle Show all work!
Geometry	Geometry Construction Project 1	Page 205 Show all work!	Page 826 Lessons 3.5-3.6 Show all work!	Page 827 Lessons 3.7-3.8 Show all work!	Sharing Marbles Show all work!
Tech Math	Duct Tape/Pencil Pouch Project Show all work!	Integers Wkst Page 93 Show All Work!	Equations Wkst Page 102 Show all work!	Order of Operations Wkst Page 23 Show all work!	Sharing Marbles Show all work!

Week of April 20-24

Choice1

Ms. Myers

Geometry Construction Project 1

Using only a compass, straight edge(do not use measurements) and a pencil.

Expectations:

❖ Choose **four** of the designs from the sheets attached to this one. Figure out what must be done to duplicate a design that is similar to the design on the paper.

❖ Use a pencil, compass and a straight edge to **create** on plain white paper the **four designs** that you have chosen.

❖ When finished, erase unnecessary marks, and color the designs you have constructed with pens, pencils, crayons, or markers.

Assessment of the Project:

Your completed project will be evaluated on the following criteria.

- ***Accuracy***—All lines must be carefully drawn with a pencil using only a compass and a straight edge. There should be no freehand drawing.
- ***Neatness***—Attention to the look and neatness of the designs is important.
- ***Creativity***—The original design and the coloring of the 4 duplicated designs should be unique and show some planning and effort.
- ***Effort*** – The more detailed, planned, colored, etc. the better!
- ***Meeting Deadlines / Following Directions*** – The project must satisfy the above expectations and be completed on time.

Each design must take up at least ¼ of a page. All 4 may go on the same paper.
List the constructions you used in each design.

Myers Choices April 20-24 Geometry

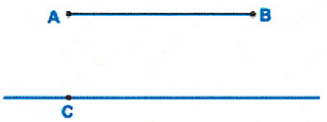
Review of constructions:

To Copy A Line Segment

1. Objective: Copy $\overline{AB}$

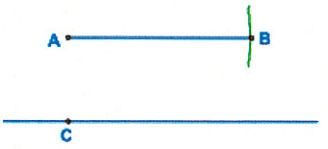
Draw a segment longer than $\overline{AB}$.

2.



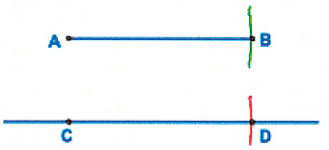
Establish point C on the longer line that correspond with A on $\overline{AB}$.

3.



Find the hole # on your compass that allows you to construct an arc through B centered at A.

4.

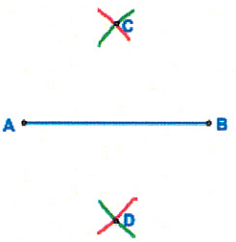


Draw an arc centered at point C using the same hole # and intersecting the longer line. The point of intersection of this arc and the line will be point D. $\overline{CD} \cong \overline{AB}$.

To Bisect a Line Segment

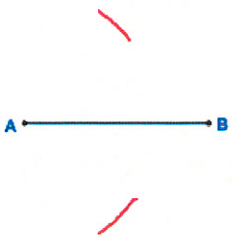
Objective: Bisect $\overline{AB}$

2.



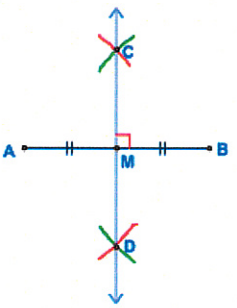
Using the same hole as for Step 1, center your compass at B and draw arcs which intercept the first two arcs, creating points C and D.

1.



Center your compass at A and pick a hole that is more than half way to B. Now draw arcs above and below $\overline{AB}$.

3.

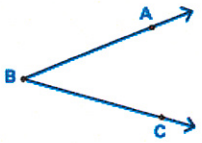


Draw $\overline{CD}$. $\overline{AM} \cong \overline{MB}$ and $\overline{CD} \perp \overline{AB}$. M is the midpoint of $\overline{AB}$.

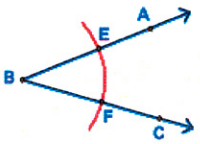
April 20-24 Myers Choice 1 Geometry

To Bisect an Angle

Objective: Bisect ∠ABC

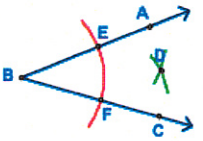


1.



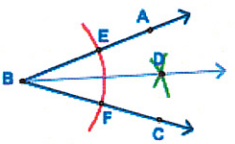
Center your compass at B and draw an arc which intersects $\overline{BA}$ and $\overline{BC}$ at E and F.

2.



Using E and F as centers, draw two arcs with equal radii intersecting at point D.

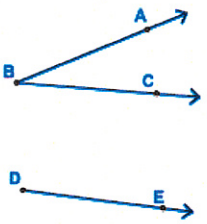
3.



Draw $\overrightarrow{BD}$. $\overrightarrow{BD}$ bisects ∠ABC.

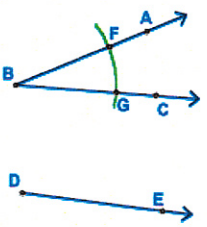
To Copy an Angle

1. Objective: Copy ∠ABC



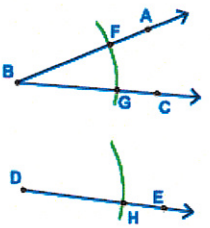
Draw $\overline{DE}$.

2.



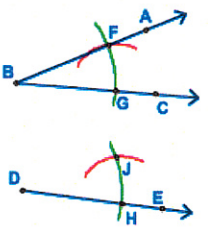
Draw an arc centered at B which intersects $\overline{BA}$ and $\overline{BC}$ at F and G.

3.



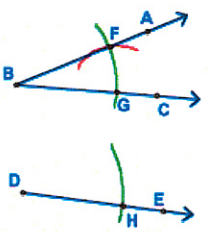
Draw an arc with the same radius as in Step 2 centered at D.

4.



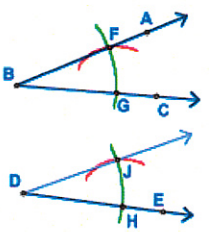
Draw an arc of length GF centered at H. It should intersect the previous arc at J.

5.



Draw an arc centered at G that goes through F – remember the hole #!!

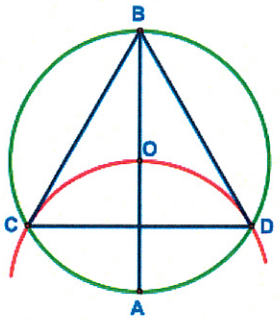
6.



Draw $\overrightarrow{DJ}$. ∠JDH ≅ ∠ABC.

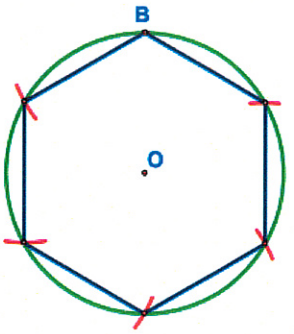
April 20-24 Myers Choice Geometry

Inscribing Regular Polygons



Inscribe an equilateral triangle:

1. In the given ⊙O, draw a diameter $\overline{AB}$.
2. Using A as a center and AO as a radius, draw an arc intersecting the circle at C and D.
3. Connect B, C, and D to form a triangle.



Inscribe a regular hexagon:

1. Draw ⊙O, remember the radius!
2. Pick a point on the circle (B in this case) and with the same radius, draw an arc that intersects with the circle (to the left of B in this case).
3. Using the new point (created where the arc meets the circle) as the center and with the same radius, make another arc on the circle. Continue making arcs around the circle until you have six points. These are the vertices of the regular hexagon.

Technical Tips:

1. Use a sharp pencil and a high quality, accurate compass.

2. Use a pencil or pen that doesn't smear. A straight edge with an elevated edge helps prevent smearing. Drafting or masking take on the bottom of the straight edge can be used to lift the edge off the paper.

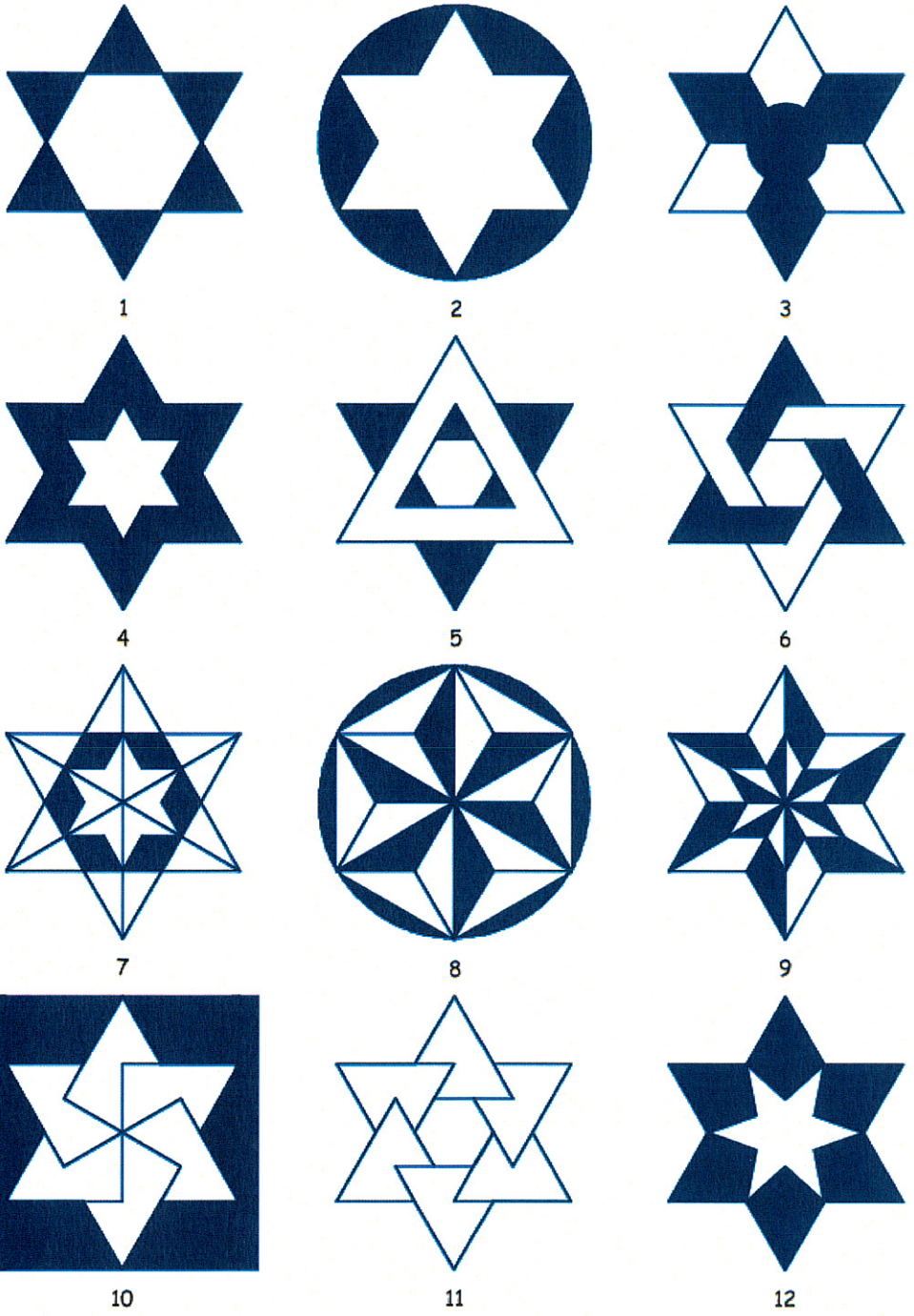
3. Make sure the paper is not on or in a binder when you're doing your constructions. The compass does not work as well if the writing surface is not *totally* flat.

4. Larger constructions usually prove to be easier and more accurate.

5. When making ink drawings, you may wish to complete the drawing in pencil before using ink.

6. Each of these constructions starts with a regular hexagon or triangle. From there, it's all about using diagonals to find different points of intersection from which to center arcs.

Myers
April 20-24
Choice 1
Geometry



Geometry

Myers
April 20-24

Sharing Marbles

Choice 5

Some math problems have one answer, some have many answers, and some have no answer! Find as many answers as you can to these problems and show how you figured them out. If a problem does not have an answer, explain why.

Pablo has some marbles in a bag. He wants to share all of them equally with his friends.

1. Pablo has fewer than 30 marbles in his bag.

He shares them between 3 friends and there is one marble left. He shares them between 4 friends, and there is one marble left.

How many marbles were in the bag?

2. Pablo has fewer than 50 marbles in his bag.

He shares them between 3 friends and there is one marble left. He shares them between 4 friends, and there is one marble left. He shares them between 5 friends, and there are no marbles left.

How many marbles were in the bag?

3. Pablo has fewer than 100 marbles in his bag.

He shares them between 3 friends and there is one marble left. He shares them between 4 friends, and there is one marble left. He shares them between 5 friends, and there is one marble left. He shares them between 6 friends, and there are no marbles left.

How many marbles were in the bag?

4. Pablo has many marbles in his bag.

He shares them between 3 friends and there is one marble left. He shares them between 4 friends, and there is one marble left. He shares them between 5 friends, and there is one marble left. He shares them between 6 friends, and there is one marble left. He shares them between 7 friends, and there are no marbles left.

How many marbles were in the bag?

5. Create your own problem about sharing marbles. Then solve it!