Construct A Line Segment With The Same Length And Same Direction As Line Segment Ab But With Beginpoint C

MENU	TOOL	PROCESS STEPS
	Line	**Draw a line. Pick arbitrary points A and B on this line.**
	Point	**Get a C point on the line (not between A and B)**
	Compasses	**Construct a circle with center C with radius equal to length of AB**
	Intersect	**Define the point that formed with intersection of circle and AB segment with the intersection tool (D point)**
	cm Uzaklık veya uzunluk	**Check the line segments AB and CD**

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DRAW THE MIDPOINT OF THE LINE SEGMENT

MENU	TOOL	PROCESS STEPS
	Segment	**Draw [AB] line segment**
	Circle with Centre through Point	**Draw two circles that with radius equal to length of AB and to is centered it at A and B**
A	Intersect	**Define the points that formed with intersection of circles with the intersection tool (C and D points)**
	Segment	**Connect two points with the "Segment" tool.(C and D Points)**
A	Intersect	**Intersect two segment that named AB and CD. (E point)**
	Distance or Length	**Check the length of [AE] and [EB] line segment**

CONSTRUCT A PERPENDICULAR BISECTOR TO THE GIVEN LINE SEGMENT AB

MENU	TOOL	PROCESS STEPS
	Segment	**Draw [AB] line segment**
	Circle with Centre through Point	**Draw two circles with radius equal to length of AB and center it at A and B**
	Intersect	**Define the points that formed with intersection of circles with the intersection tool (C and D points)**
	Segment	**Connecttwo points with the "Segment" tool (C and D points)**
	Intersect	**Define the point that formed with intersection of segments AB and CD (E point). This must be midpoint of AB segment.**
	Distance or Length	**Check the length of AE and EB line segments**
	Angle	**Check the angles AEC or BEC**

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Draw A Line (Segment) That Goes Through Point A And That Is Perpendicular To The Given Line Segment

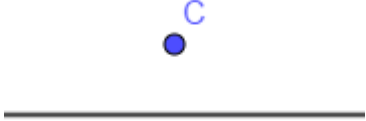| MENU	TOOL	PROCESS STEPS
	A ———•———	Draw a segment and mark arbitrary point A on it.
⊙	⊙ Circle with Centre through Point	Draw a circle that with of any radius and with center it at A
•A	✕ Intersect	Define the points that formed with intersection of circle and line with the intersection tool (E and D points)
⊙	⊙ Circle with Centre through Point	Draw a circle that center it at D with radius is bigger than length of AE
⊙	⊙ Compasses	Draw a circle that E centered radius is equal to the radius of the D centered circle
•A	✕ Intersect	Define the points that formed with intersection of circles that is centered it at E and D with the intersection tool (H and G points)
✒	✒ Segment	Connect H and G points with the "Segment" tool.
◁	◁ Angle	Check the angle DAH or HAE

DRAW A LINE (SEGMENT) PERPENDICULAR TO THE GIVEN LINE GOING THROUGH POINT C

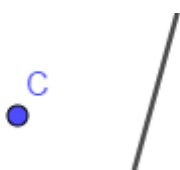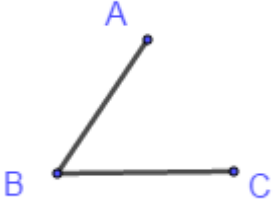| MENU	TOOL	PROCESS STEPS
		C
⊙ Circle with Centre through Point	Circle with Centre through Point	**Draw the circle with the center point C and cutting the line at two points.**
•A	Intersect	**Define the points that formed with intersection of circle and line with the intersection tool (E and F points)**
⊙	Compasses	**Draw two circles with radius equal to length EC or FC and center D and E**
•A	Intersect	**Define the points that formed with intersection of D and E circles with the intersection tool (C and G points)**
✏	Segment	**Connect C and G points with the "Segment" tool**
•A	Intersect	**Define the points that formed with intersection of segments with the intersection tool (H point)**
◢	Angle	**Check the angle CHE or FHC**

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Reflect A Point In A Line
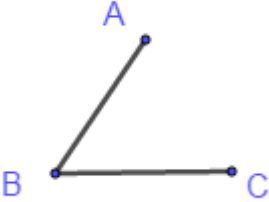
MENU	TOOL	PROCESS STEPS
⊙	⊙ Circle with Centre through Point	**Draw a circle with the center it at C and cutting the line at two points**
A	✕ Intersect	**Define the points that formed with intersection of circle and line with the intersection tool (E and F points)**
⊙	⊙ Compasses	**Draw two circles with radius equal to length EC and center E and F**
A	✕ Kesiştir	**Define the points that formed with intersection of circles that E and F-centered (G point)**

DRAW AN ANGLE EQUAL TO THE GIVEN ANGLE

MENU	TOOL	PROCESS STEPS
Circle with Centre through Point	Circle with Centre through Point	**Draw the circle with the center point B and cutting the segments at two points.**
A	Intersect	**Define the points that formed with intersection of circle and line with the intersection tool (E and F points)**
A	Line	**Draw a new line (GH line)**
Compasses	Compasses	**Draw a circle with radius equal to length BE and center it at G**
A	Intersect	**Define the point that formed with intersection of circle and line with the intersection tool (I point)**
Compasses	Compasses	**Draw a circle with radius equal to length EF and center it at I**
A	Intersect	**Define the points that formed with intersection of circles (J point)**
A	Segment	**Connect G and J points with the "Segment" tool.**
Angle	Angle	**Check the angles CBA and IGJ**

Draw A Line (Segment) That Bisects The Given Angle

MENU	TOOL	PROCESS STEPS
		A B C
⊙	⊙ Circle with Centre through Point	**Draw a circle with center B**
•A	✕ Intersect	**Define the points that formed with intersection of circle and segments (E and F points)**
⊙	⊙ Compasses	**Draw two circles with radius equal to length BE or BF and E and F-centered**
•A	✕ Intersect	**Define the points that formed with intersection of circles that E and F-centered (G points)**
•A	✎ Line	**Connect G and B points with the "Line" tool.**
◹	⊿α Angle	**Check the angles CBG and GBA**

Construct A Line Parallel To The Given Line Going Through Point B

MENU	TOOL	PROCESS STEPS
	Line	**Connect A and C points with the "Line" tool.**
	Circle with Centre through Point	**Draw a circle with the center it at A and cutting the line at two points.**
	Intersect	**Define the points that formed with intersection of circle and lines (E and F points)**
	Compasses	**Draw a circle with radius equal to length AE and center B**
	Intersect	**Define the points that formed with intersection of circle and line with the intersect tool (G point)**
	Compasses	**Construct a circle with radius equal to EF and center G**
	Intersect	**Define the points that formed with intersection of circles that C and G-centered (H point)**
	Line	**Connect C and H points with the "Line" tool.**

AB and G collinear but G is not between A and B. Find the point G such that ratio of GA and GB is 3:5

MENU	TOOL	PROCESS STEPS
	Line	Draw a line that pass through point A (AC line)
	Parallel Line	Draw a parallel line to AC that pass through point B (BD line)
	Circle with Centre and Radius	Construct a circle with radius equal to 3 and center A
	Circle with Centre and Radius	Construct a circle with radius equal to 5 and center B
	Intersect	Define the points that formed with intersection of circles and lines with the intersect tool (E and F points)
	Line	Combine E and F points with the "Line" tool.
	Intersect	Define the points that formed with intersection of AB and EF lines with the intersect tool (G point)
	Distance or Length	Check the length GA and GB line segments

AB and G collinear but G is between A and B. Find the point G such that ratio of GA and GB is 3:5

Kullanılacak Menü	Alt Menü	İşlem Basamakları
		A G B
	Doğru	Draw a line that pass through point A (AC line)
	Parallel Line	Draw a parallel line to AC that pass through point B (B line)
	Circle with Centre and Radius	Construct a circle with radius equal to 3 and center A
	Circle with Centre and Radius	Construct a circle with radius equal to 5 and center B
	Intersect	Define the points that formed with intersection of circles and lines (D and E points)
	Line	Connect diagonal D and E points with the "Line" tool.
	Intersect	Define the points that formed with intersection of AB and DE lines with the intersect tool (G point)
cm	cm Distance or Length	Check the length GA and GB line segments

DRAW AN EQUILATERAL TRIANGLE SUCH THAT THE SEGMENT AB IS ONE OF ITS SIDES.

MENU	TOOL	PROCESS STEPS
	Segment	**Draw AB line segment**
	Circle with Centre through Point	**Draw two circles with radius equal to length AB and the centers must be A and B**
A	Intersect	**Define the points that formed with intersection of circles with the intersection tool. Give a name one of the intersections like C**
	Polygon	**Draw triangle by connecting A,B,C points**
	Angle	**Check the angles of the formed triangle**

CONSTRUCT A SQUARE

| MENU	TOOL	PROCESS STEPS
	Line	**Draw AB line**
	Perpendicular Line	**Draw a perpendicular line that goes to A point to AB**
A	Circle with Centre and Radius	**Draw a circle that radius equal to length of AB segment and centered at A**
	Intersect	**Define the points that formed with intersections of circle and lines**
	Angle Bisector	**Draw angle bisectors of EAD and DAF angles**
A	Intersect	**Define the points that formed with intersections of circle and angle bisector lines**
	Segment	**Combine the points that formed with intersected circle and angle bisectors**
cm	Distance or Length	**Check the length GA and GB line segments**

Find The Center Of Circle

MENU	TOOLS	PROCESS STEPS
	Circle through 3 Points	**Draw circle that through A,B,C points**
	Segment	**Combine the A and B points**
	Compass	**Draw a circle that radius equal to length of AB segment and centered at C**
	Intersect	**Define the points that formed with intersections of circles (D point)**
	Segment	**Combine the C and D points**
	Perpendicular Bisector	**Draw perpendicular bisectors of AB and CD segments**
	Intersect	**Define the points that formed with intersections of perpendicular bisectors (Center of circle)**
	Distance or Length	**Measure from center point to a point which is on the circle**

Compare Triangle Areas With The Same Base And Different Apex Point

MENU	TOOL	PROCESS STEPS
	Segment	Draw a segment
	Point	Draw a point outside the segments line
	Parallel Line	Click the point and the segment to draw a parallel line to the segment
	Polygon	Successively select the three points which will be the vertices of the triangle. Then, click the first point again in order to close the triangle.
	Area	Point the triangle shape and you get the area of the triangle
	Point	Draw a point on the line ,different to the first point
	Polygon	Successively select the new point on the line and the other two points at the base and the new point again to create another triangle
	Area	Click the shape of the new triangle to get the area
	Move	Click on the last point to change the shape of the last trangle. What did you see?

Isosceles triangle Construction with given base and given line

Menu	Tool	Process Steps
	Segment	Draw a segment
	Line	Draw a line from two points C,D
	Midpoint or center	Click the segment AB to find the midpoint E
	Perpedicular Line	Click E point and to the segment AB to draw
	Intersect	Click the perpedicular bisector and the CD line to find the peak point of the isosceles triangle
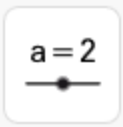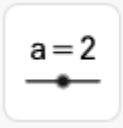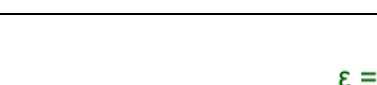
Square Construction with given side length

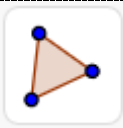| MENU	TOOL	PROCESS STEPS
	Segment with given length	Draw a segment AB from the point A with given lenght e.g. 10
	Rotate around point	1. Check the segment AB 2. Click the point A 3. Write 90^0 degrees
	Rotate around point	1. Check the segment A´B´ 2. Click the point B´ 3. Write 90^0 degrees
	Rotate around point	1. Check the segment A´´B´´ 2. Click the point A´´ 3. Write 90^0 degrees

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
Visualisation of sum of the angles in a triangle

	Polygon	**Draw a triangle ABC**
	α Angle	**Find the value of all angles of the triangle**
A	Midpoint or Center	**Find midpoints of segments AC and BC. Mark them as points D and E.**
a = 2	a = 2 Slider	**Create a slider for angle δ °** **MIN 0 MAX 360 INCREMENT 1**
a = 2	a = 2 Slider	**Create a slider for angle ε °** **MIN 0 MAX 360 INCREMENT 1**
	Rotate around Point	**Rotate the triangle ABC around D point by δ angle [counterclockwise]**
	δ = 180°	**Set the δ angle slider to 180**
	α Angle	**Find the value of all angles of the rotated triangle**
	Rotate around Point	**Rotate the triangle ABC around E point by ε angle [counterclockwise]**
	ε = 180°	**Set the ε angle slider to 180**
	α Angle	**Find the value of all angles of the rotated triangle**

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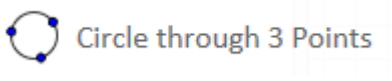
Dividing a segment into 3 pieces of equal length

MENU	TOOL	PROCESS STEPS
	Segment	Draw [AB] line segment
	Ray	Draw a ray starting in A
a=2	a=2 Slider	Create a slider *a*=1 MIN 1 MAX 10 INTERCEPT 0.1
	Circle with Centre and Radius	Draw a circle with radius *a* and a center at A
A	Intersect	Find the intersection of the circle with the ray. Mark it as point D
	Circle with Centre and Radius	Draw a circle with radius *a* and a center at D.
A	Intersect	Find the intersection of the circle with the ray. Mark it as point E
	Circle with Centre and Radius	Draw a circle with radius *a* and a center at E.
A	Intersect	Find the intersection of the circle and the ray. Mark it as point F.
	Line	Create a line through points F and B
	Parallel Line	Draw lines parallel to the one from the previous step, that go through points E and D respectively

A	Intersect	Find the intersections of these lines with segment AB. Mark them as I and J.
	Segment	Drew segments [AI], [IJ] and [JB]
α	cm Distance or Length	Check the length of these segments

Find the centre of a circle given three points on that circle

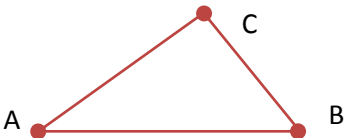| Kullanılacak Menü	Alt Menü	İşlem Basamakları
	⬡ Circle through 3 Points	**Construct a circle through three points**
	✏ 1 Segment	**Draw a line segment that passes through point A and B (chord AB)**
	✏ 1 Segment	**Draw a line segment that passes through point B and C (chord BC)**
	✗ Perpendicular Bisector	**Construct the perpendicular bisector of AB**
	✗ Perpendicular Bisector	**Construct the perpendicular bisector of BC**
	✗ Intersect	**Define the point D formed by the intersection of the two perpendicular bisectors (point D is the centre of the circle)**

It works by joining two pairs of points to create two chords. The perpendicular bisector of each chord chords always passes through the center of the circle. By this method we find the center!

Find the circumcentre and the circumcircle of a triangle

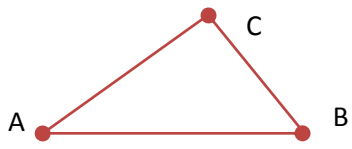| Menu	Tool	Process Steps
		C A B
⊙	⊙ Circle with Centre and Radius	**Construct a circle with radius equal to AB and centre A**
⊙	⊙ Circle with Centre and Radius	**Construct a circle with radius equal to AB and centre B**
•A	✕ Intersect	**Define the points formed by the intersection the two circles (D and E points)**
✐	✐ Line	**Connect D and E points with the "Line" tool.**
⊙	⊙ Circle with Centre and Radius	**Construct a circle with radius equal to AC and centre A**
⊙	⊙ Circle with Centre and Radius	**Construct a circle with radius equal to AC and centre C**
•A	✕ Intersect	**Define the points formed by the intersection the two circles (F and G points)**
✐	✐ Line	**Connect F and G points with the "Line" tool.**
•A	✕ Intersect	**Define the point formed by the intersection the two lines (point H). This is the circumcentre.**
⊙	⊙ Circle with Centre and Radius	**Construct a circle with radius equal to AH and center H. This is the circumcircle.**

EuroGebra Worksheets

Find the incentre and the inscribed circle of a triangle

Menu	Tool	Process Steps
		Triangle with vertices A, B, C
	Angle Bisector	Construct the angle bisector of angle BAC.
	Angle Bisector	Construct the angle bisector of angle ABC.
	Intersect	Find the intersection of the two angle bisectors (point D). This is the incentre.
	Perpendicular Line	Construct a line perpendicular to the line AB that goes through point D.
	Intersect	Find the intersection of the perpendicular line and the line AB (point E).
	Circle with Center through Point	Construct a circle with centre at point D and radius DE. This is the inscribed circle.

Show the solutions to a quadratic inequality

Menu	Tool	Process Steps
$a=2$	$a=2$ Slider	**Create a slider for the variable "a" between -5 and 5.**
$a=2$	$a=2$ Slider	**Create a slider for the variable "b" between -5 and 5.**
+	Input...	**Input the equation "y = (x − a)(x − b)".**
+	Input...	**Input the inequality "0 > (x − a)(x − b)".**
+	Input...	**Input the inequality "0 < (x − a)(x − b)".**