

Hexagon Inscribed in a Circle

1. **Mark a center point and then construct a circle.**
2. **Draw a radius.**
3. **With the compass open to the length of the radius, create an arc centered where the radius intersects the circle that crosses the circle.**
4. **Leaving the compass open to the same width, create another arc centered where the first arc met the circle.**
5. **Continue this all the way around the circle. The last arc should meet the first arc.**
6. **Connect each of the six arc intersection points to create the hexagon.**

Constructing a Hexagon Inscribed in a Circle

Equilateral Triangle Inscribed in a Circle

1. **Mark a center point and then construct a circle.**
2. **Draw a radius.**
3. **With the compass open to the length of the radius, create an arc centered where the radius intersects the circle that crosses the circle.**
4. **Leaving the compass open to the same width, create another arc centered where the first arc met the circle.**
5. **Continue this all the way around the circle. The last arc should meet the first arc.**
6. **Connect every other intersection point around the circle to create an equilateral triangle.**

Constructing a Triangle Inscribed in a Circle

Square Inscribed in a Circle

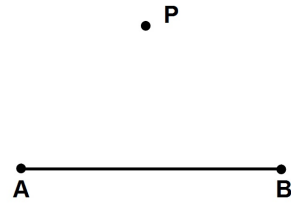
1. **Mark a center point and then construct a circle.**
2. **Draw a diameter.**
3. **Construct a perpendicular bisector to this diameter (two semi-circles that intersect above and below).**
4. **Connect each end of the diameter with each endpoint of where the perpendicular bisector intersects the circle.**

Constructing a Square Inscribed in a Circle

Parallel Line Through a Given Point

1. Draw a general line (transversal) through the given point that intersects the original line.
2. Draw an arc centered at intersection point that crosses original line and transversal.
3. Draw this same arc (do not change compass) centered at top point.
4. Put center of compass where first arc crosses transversal. Create a new arc that crosses first arc and original line.
5. Recreate this same arc but centered top (where top arc crosses transversal line).
6. Draw a line through the given point and the point of intersection of the two arcs at the top.

Constructing a Parallel Line Through a Point



Practice:

5. Construct a parallel line through the given point.

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Practice:

6. Construct a triangle inscribed in a circle.

Practice:

7. Construct a square inscribed in a circle.

Practice:

8. Construct a hexagon inscribed in a circle.