Hexagons

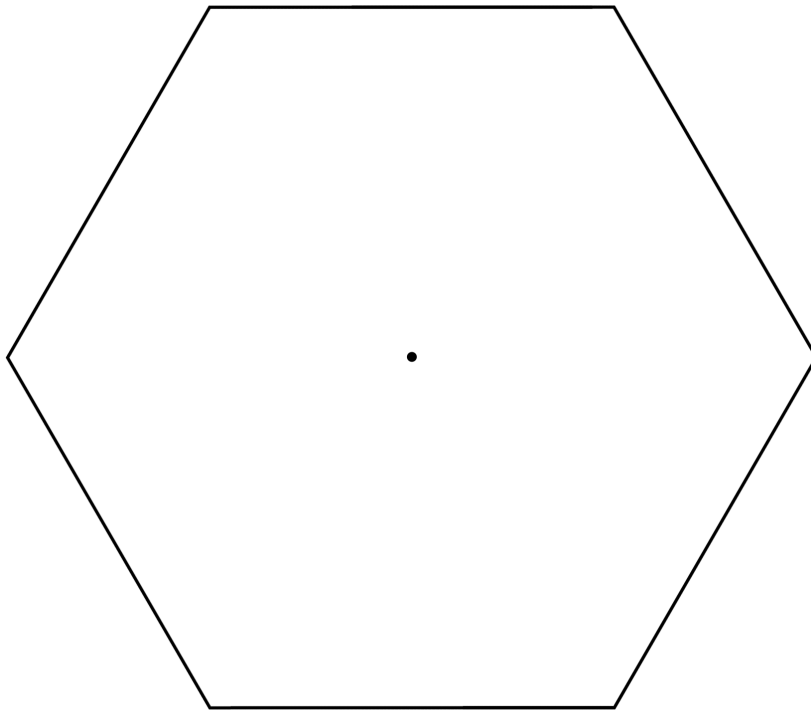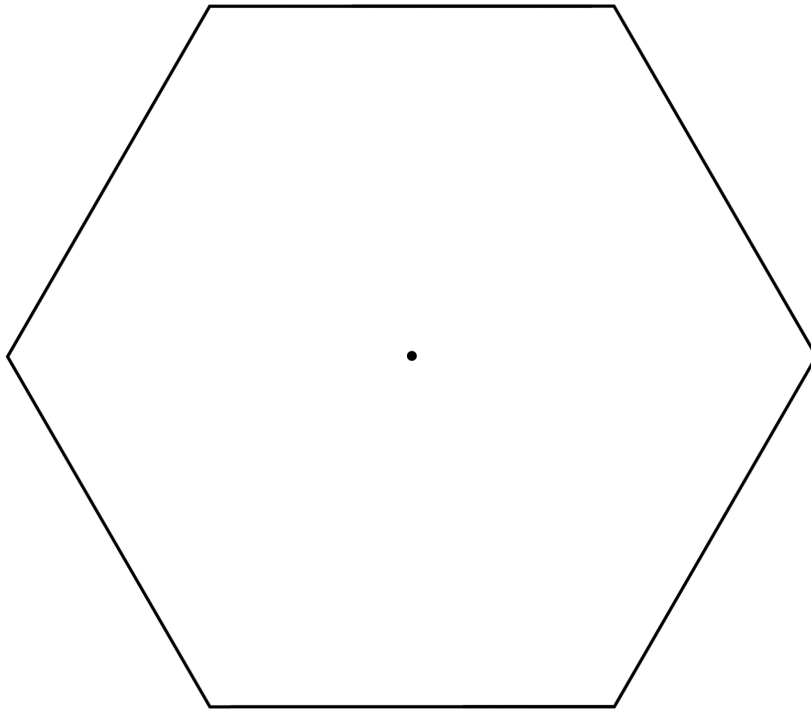# Hexagons

Teacher guide

Triangles and Hexagons

As your students to cut out both hexagons. Have them cut one of them into six equal triangles.

Depending on where you are in the lessons, this might be a puzzle for them. If they don't already know to cut from quarter to corner through the center, this might be a nice discovery activity.

Discuss the the triangles, encouraging them to notice:

1. All the triangles are the same
2. There are six triangles (one for each side of the hexagon)
3. The triangles are equilateral

... And Circles!

Next have your students draw circle whose radius is the length of the sides of the triangles. Ask them to play with the triangles, the hexagon and the circle and see what they notice. (They can see which fit in which, etc.)

Have a discussion about this and encourage them to notice:

1. The hexagon fits exactly inside the circle (so the circle is circumscribed outside the hexagon, and the hexagon is inscribed inside the circle)
2. The six triangles, reassembled as a hexagon, also fit inside the circle.
3. The perimeter of the hexagon is six times the length of the radius

Then Degrees...

Ask your students to pick their favorite number. Have them draw that many wedges in one of the corners of their triangles.

Have them do that to one corner of each of the other triangles as well. Then place all the triangles inside the circle - wedge-bits-in.

Ask them: How many wedges are there in the circle?

Let them know that the Babylonians' favorite number was 60. So they did 60 wedges in each triangle! And that's how we get 360°.