logo.png

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Polygons

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Regular Polygons

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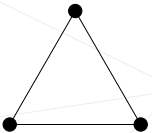
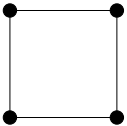
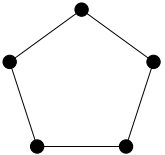


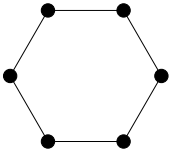
Equilateral triangle (regular trigon)



Square (regular tetragon)



Regular pentagon



Regular hexagon

Review – Plane Transformations

Rotation

Rotation of a polygon consists of well ... rotating each of its points by a fixed angle around a fixed point (called *anchor*).

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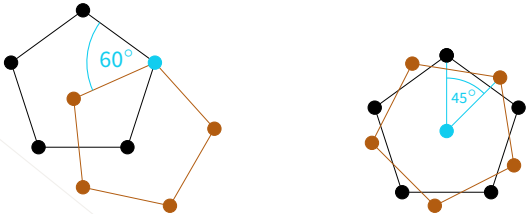

Examples of rotations.

Review – Plane Transformations

Reflection

Reflection of a polygon consists of ‘mirroring’ each of its points through a given line (called *axis of reflection*).

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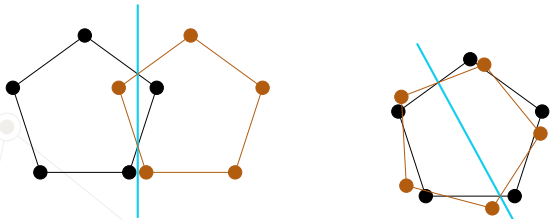

Examples of reflections.

Review – Plane Transformations

Point Symmetry

Point symmetry of a polygon consists of ‘mirroring’ each of its points through a given point (called *center of symmetry*).

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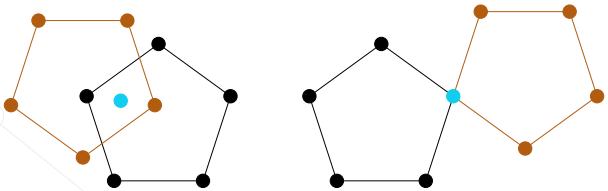

Examples of point symmetries.

Symmetries of Regular Polygons

Question: What are the transformations that don't change regular polygons in any way?

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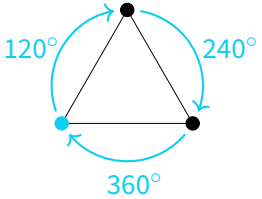
  - only through the 'centre' – the point where its axes of symmetry intersect – in case n is even

Symmetries of Regular Polygons



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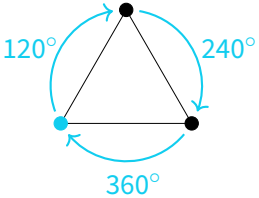

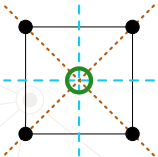

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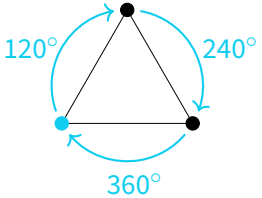

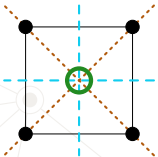

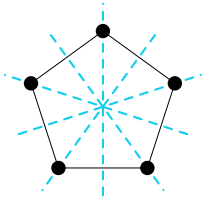

Examples of regular polygon symmetries