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Honors Geometry

DATE: 10/4

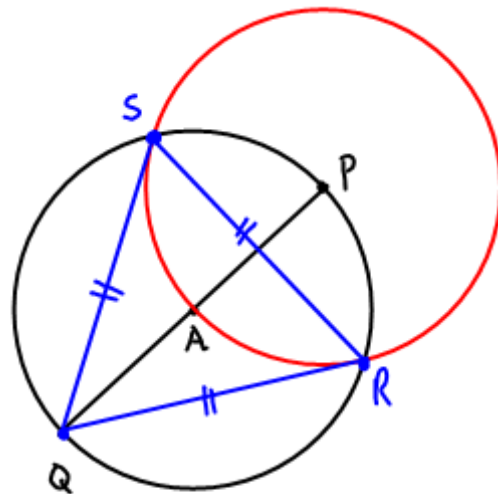
Target 1B. Construct an equilateral triangle, a square, and a regular hexagon inscribed in a circle, and explain the steps involved.

Construction 7: Construct and equilateral triangle that is inscribed in a circle.

Given: $\odot A$

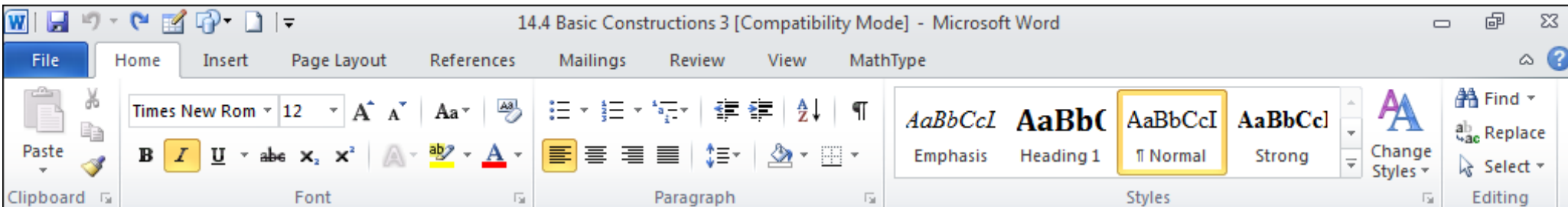
Construct: equilateral $\triangle QRS$

$\therefore \triangle QRS$ is
equilateral
All sides \cong



- ① Begin by constructing $\odot A$.
- ② Put a pt. P anywhere on the \odot and construct diameter \overline{PQ} .
- ③ Adjust the width of your compass to \overline{AP} , the radius.
- ④ Place the compass on P and construct another \odot centered at P and going through the center of $\odot A$.
- ⑤ Pts Q, R, S make up the equi \triangle .

Construction 8: Construct a regular hexagon inscribed in a circle.



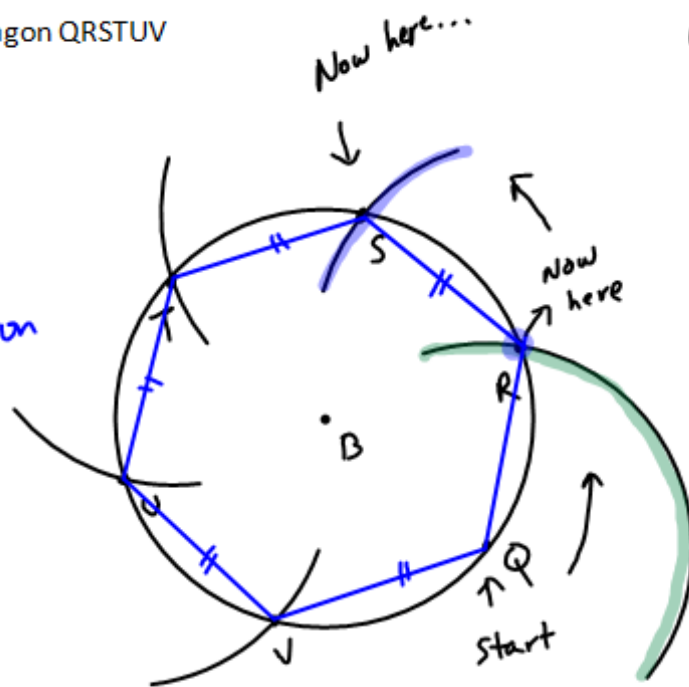
Construction 8: Construct a regular hexagon inscribed in a circle.

Given: $\odot B$

Construct: a regular hexagon QRSTUV

6 sides
All sides \equiv

$\circ \circ$ QRSTUV is a regular hexagon



- ① Begin by constructing $\odot B$.
- ② Put a pt. Q anywhere on the \odot and adjust your compass to the width of \overline{BQ} , the radius.
- ③ Place your compass on Q and make an arc. Repeat the process starting on the pt. where the arc intersects the circle.
- ④ Connect all arc intersection pts, Q, R, S, T, U, and V.

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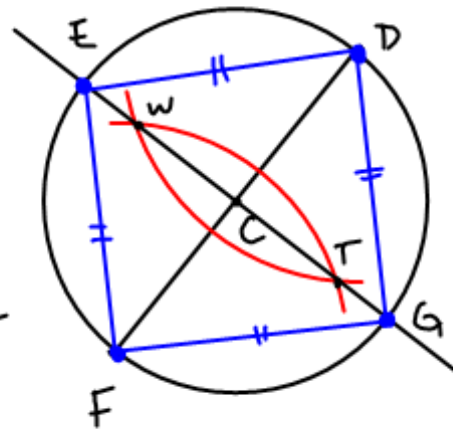
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Construction 9: Construct a square that is inscribed in a circle.

Given: $\odot C$

Construct: a square DEFG

∴ DEFG
is a square



- ① Begin with $\odot C$.
- ② Place D anywhere on \odot and construct diameter \overline{DF} .
- ③ Adjust the compass width a little past radius. Place compass on D and make an arc.
Do the same starting at F.
- ④ Connect intersection of arc through pts W and T.
- ⑤ finish explaining...almost done!

Construction 10: Construct a parallelogram given two sides and an angle.

(a parallelogram is quadrilateral where both pairs of opposite sides are parallel and congruent)

Given: two sides (of different length) and an angle