# Workshop

# Explaining why
## using facts on geometry

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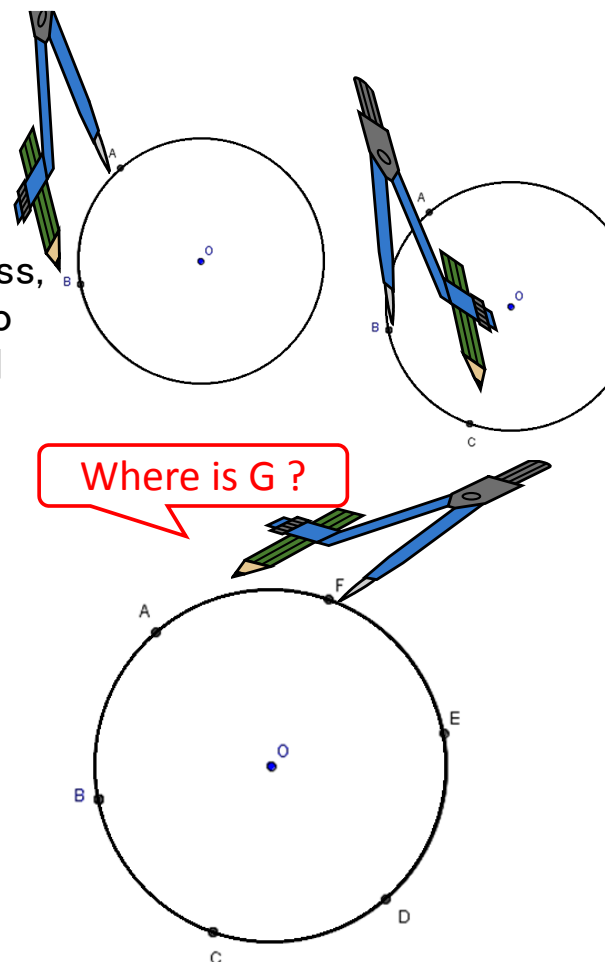chinok@shinshu-u.ac.jp

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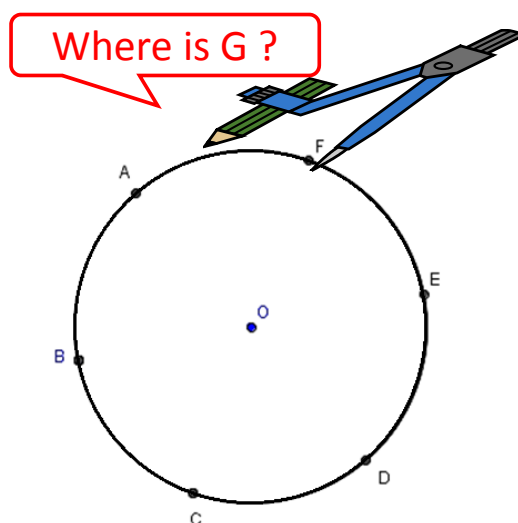## Beyond drawing

Draw a circle by a compass.

Without changing opening the compass, a needle of the compass is stuck into a point (A) of the circumference, and mark the circumference up with the compass as shown in the figure (B).

Again, without changing opening the compass, a needle of the compass is stuck into B, and mark the circumference up with the compass (C),···.

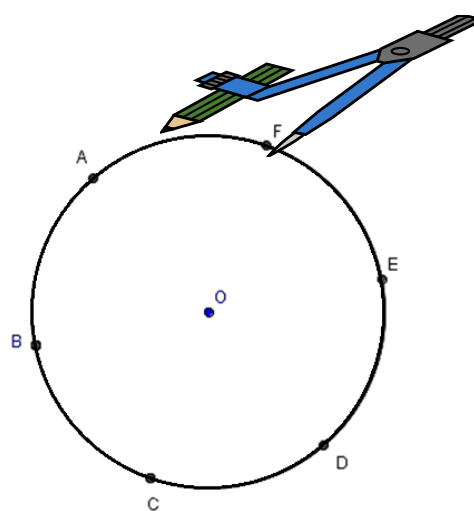What can you say about positional relationship between 7th mark point (G) and A ?



Where is G ?

Let's try: Decide the position of G and explain why

Where is G ?

What facts do you use in explanation?

Let's try: Formulate your conclusion in your words
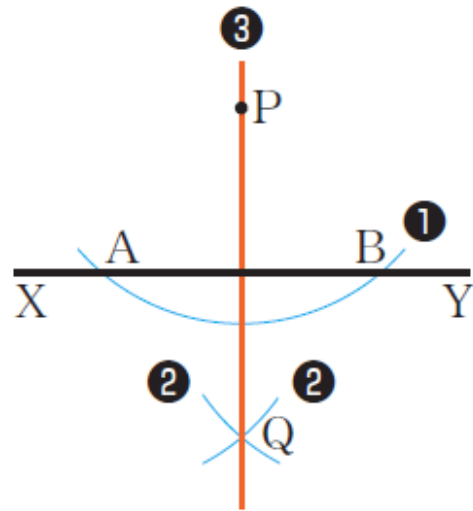based on your proving

Let's try: Discuss conclusion(s) with your partner

# Let's try: Explain why we can construct perpendicular lines

Draw a circle with point P at the center. Label as A and B the points where the circle intersects line XY.

Draw two circles with A and B at their centers and a radius of PA. Label one of the points where they intersect Q.

Draw line PQ.



## What facts do you use in explanation?

# Let's try: Find a procedure for constructing angle bisectors
## based on properties of figures