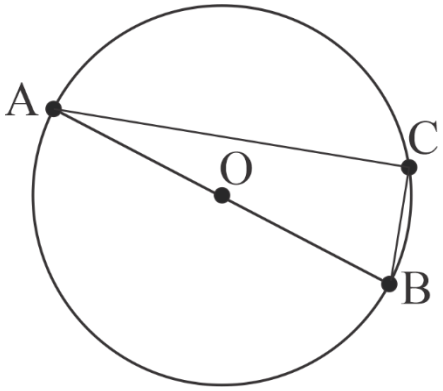
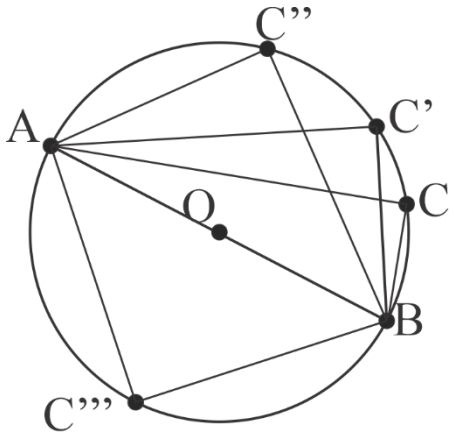
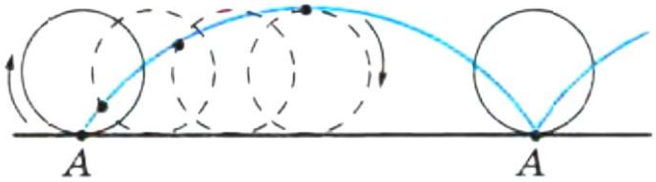
Classwork 15.

Draw a circle. Draw a diameter. Mark the ends of the diameter with letters A and B. Mark an arbitrary point C on the cercle and connect points C and A, as well as C and B, as shown on the picture. Measure the angle ∠ACB. Mark a few other points on the circle. Measure all angles ∠AC(C', C'', C''')B. What can you say? Try to explain your finding. Hint: Draw the diameter from point C (you have to draw line $\overleftrightarrow{CO}$).



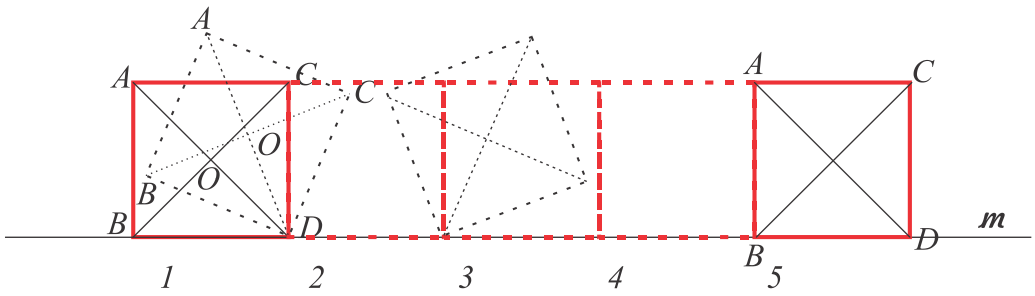


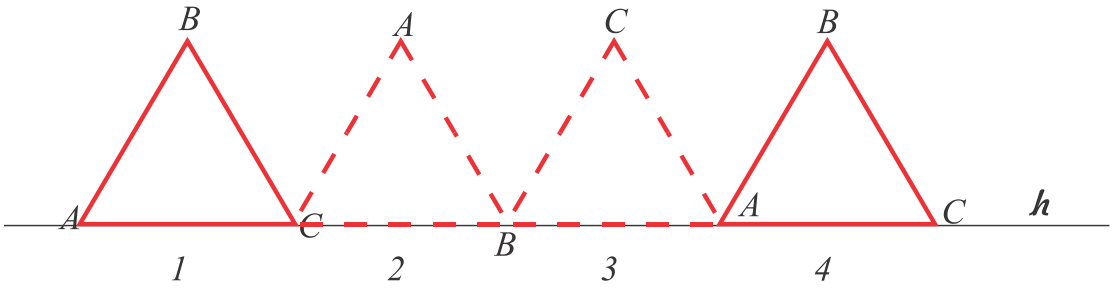
Circle is running along the line. At a starting time, point A was the point of contact of the circle and the line. The curve which point A will trace is called cycloid.



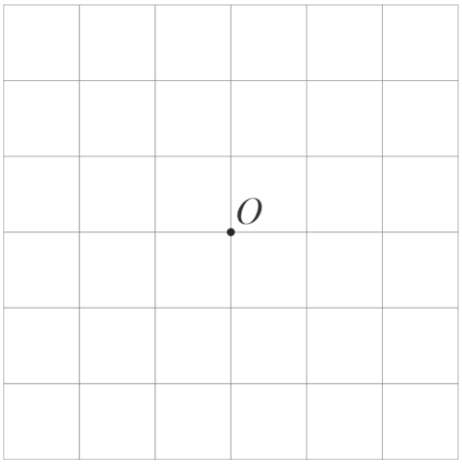
What line the center of the circle will trace? That is why the wheel is round. The center of the wheel goes parallel to the surface.

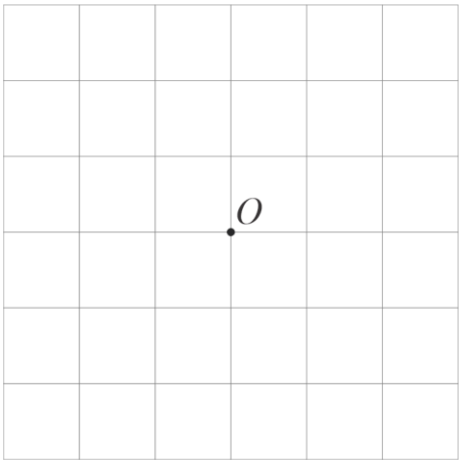
Imagine the "square wheel" – a square which is staying on a road. Draw a line traced by the point B (vertex) in a process of "rolling"? The diagonals' intersection?



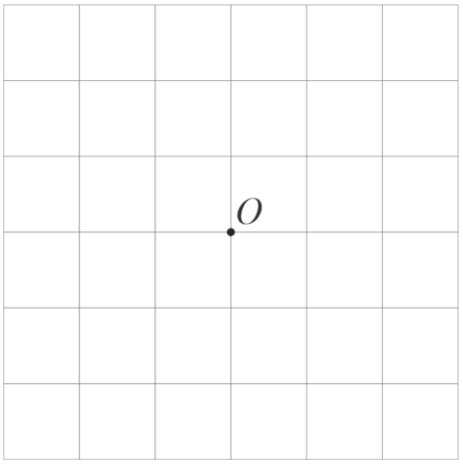


1. Mark all points that are at a distance of 2 from point O.
2. Mark all points that are at a distance of less than 2 from point O.

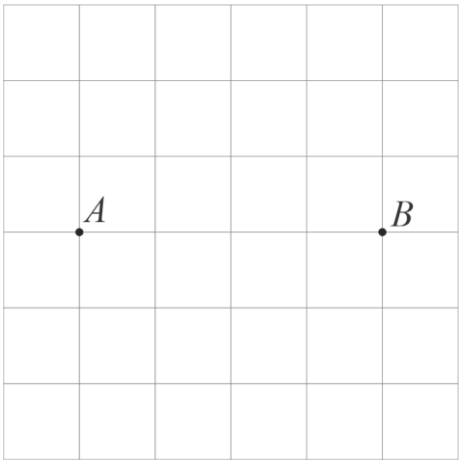


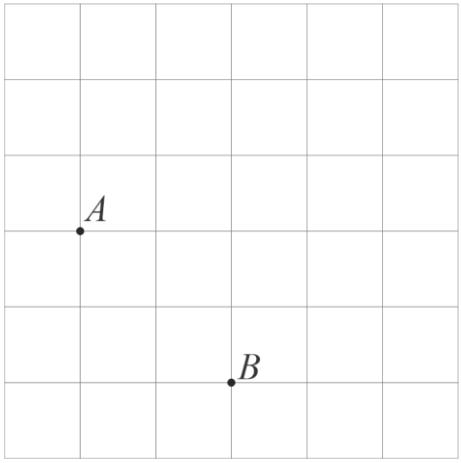


Mark all points that are at a distance of less than 3 but greater than 2 from point O

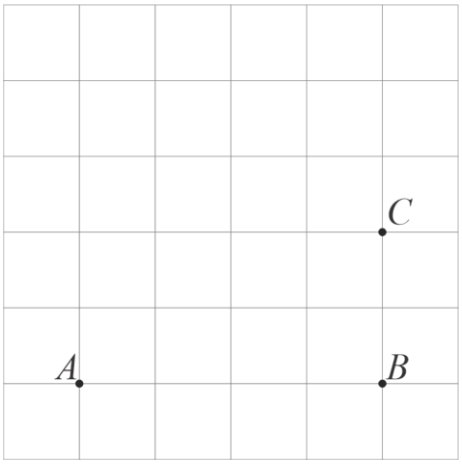


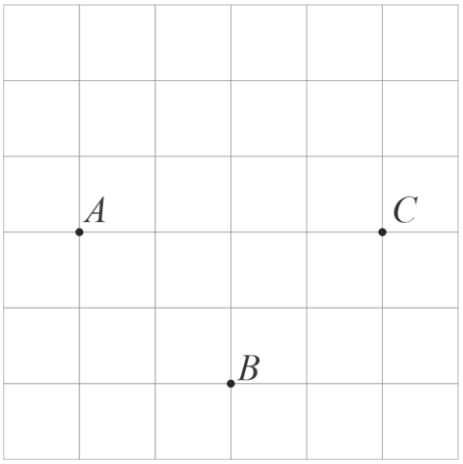
3. Mark all points that are equidistant from points A and B.



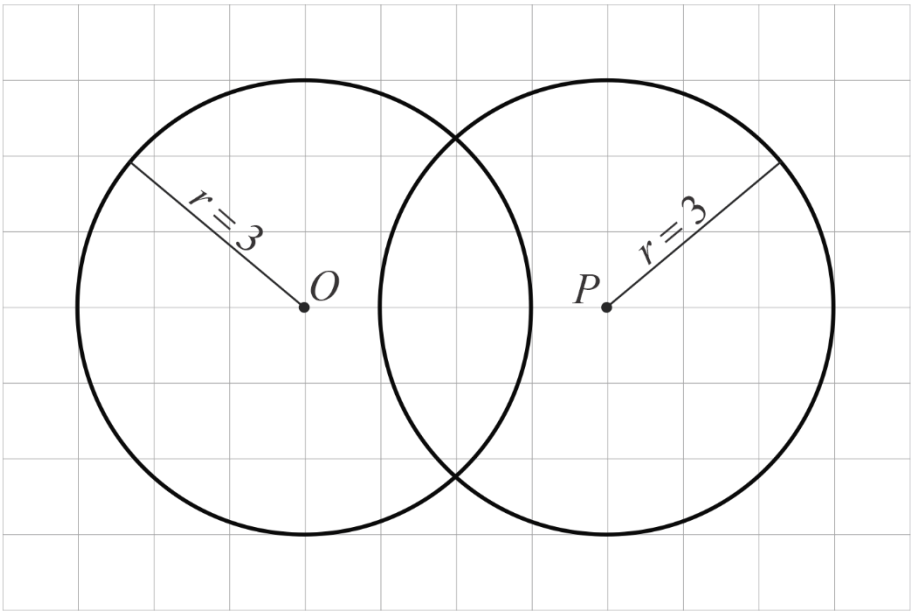


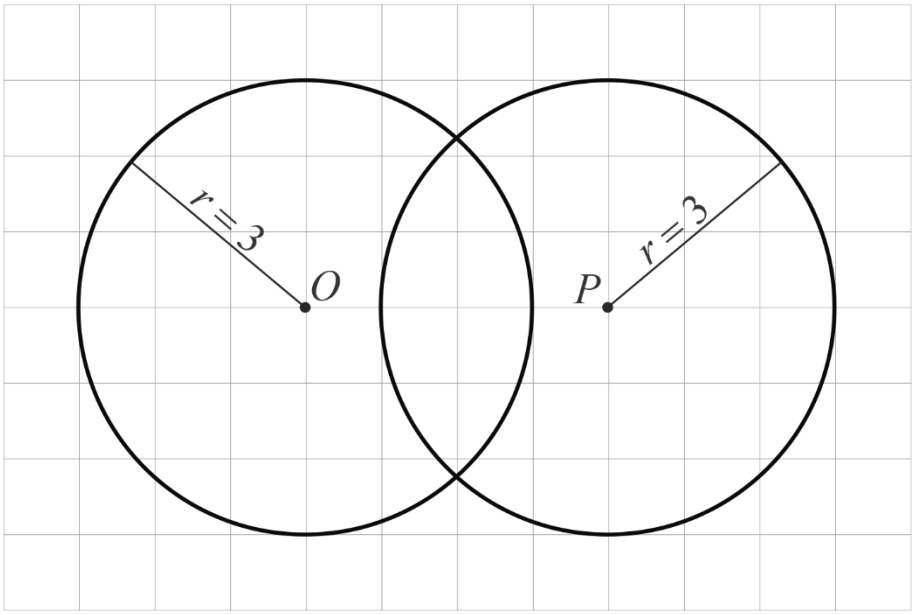
4. Mark all points that are equidistant from points A, B and C.





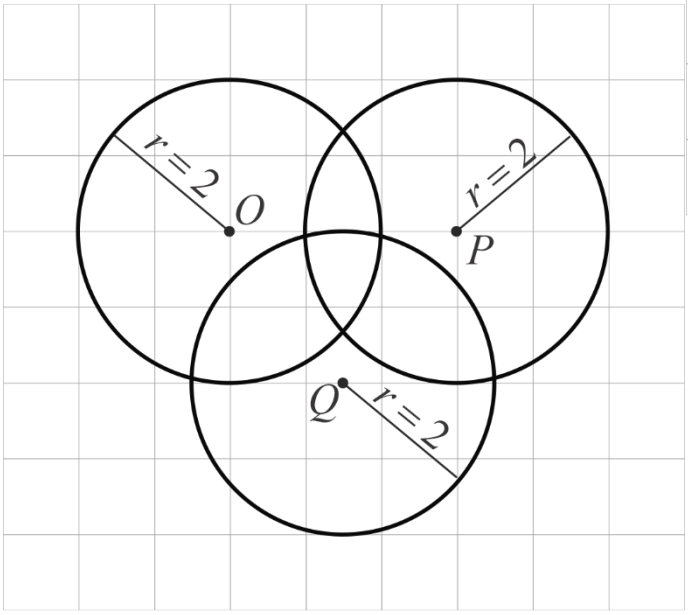
5. Shade the area where points are less than 3 cm from point O and less than 3 cm from point P.

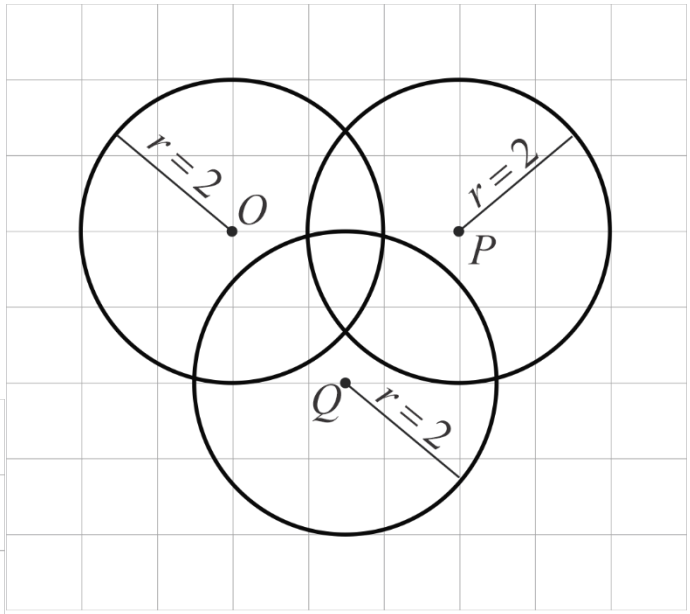




6. Shade the area where points are less than 3 cm from point O and more than 3 cm from point P.

7. Shade the area where points are less than 2 cm from point O, less than 2 cm from point P and less than 2 cm from point Q.





8. Shade the area where points are less than 2 cm from point O, less than 2 cm from point P and more than 2 cm from point Q.