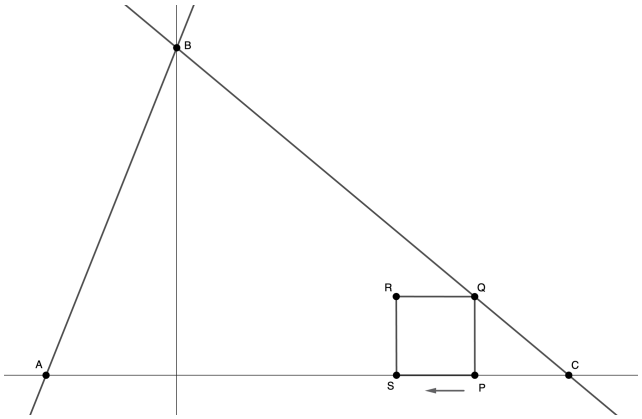
As shown in the figure below there are three points: $A(-10, 0)$, $B(0, 25)$, and $C(30, 0)$. Point P starts at C and moves towards A at a speed of 2 units per second along the x-axis. From point P, a line parallel to the y-axis is drawn, and the intersection of that line with BC is marked as point Q. Also, take point S be a point on the x-axis such that $PQ = PS$. Using PQ and PS, point R is placed so that quadrilateral $PQRS$ is a square.[1]

(1): Let t be the time elapsed after R moves from C. Express R's coordinates as a function of t.

(2): At what time t does $PQRS$ become inscribed within triangle ABC?



[1]Hosei University Girls' High School, Kanagawa