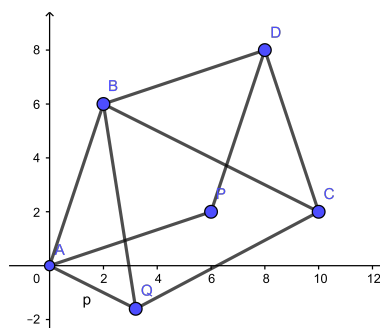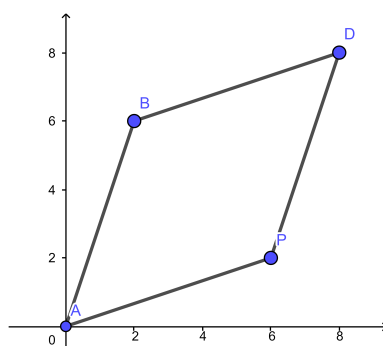**Problem 1. (Coordinate Puzzle)**

Let $A = (0,0)$, $B = (2,6)$, $C = (10,2)$, and $D = (8,8)$. Let $P = (6,2)$ and $Q = \left(\dfrac{16}{5}, -\dfrac{8}{5}\right)$.
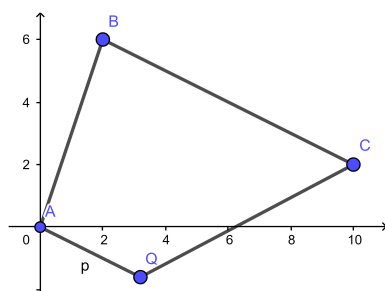

In Activity 0401b, you showed that $ABDP$ is a rhombus, $ABCQ$ is a trapezoid, and $BDCQ$ is a kite. In this activity, you will find their areas.

(a) Find the area of the rhombus $ABDP$.

(b) Find the area of the trapezoid $ABCQ$.

(c) Find the area of the kite $BDCQ$.