

1. The area of the triangle formed by the line  $\frac{x}{a} + \frac{y}{b} = 1$  with the coordinate axes is :
  - (a)  $ab$
  - (b)  $\frac{1}{2}ab$
  - (c)  $\frac{1}{4}ab$
  - (d)  $2ab$
2. Jagdish has a field which is in the shape of a right angled triangle AQC. He wants to leave a space in the form of a square PQRS inside the field for growing wheat and remaining for growing vegetables as shown in figure. 1 . In the field , there is a pole marked as O .

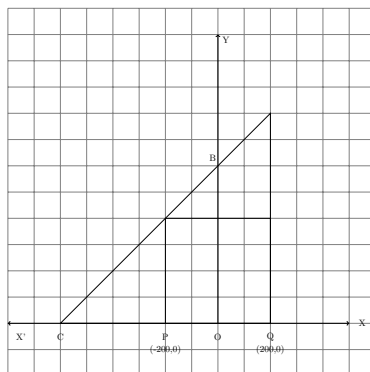


Figure 1: Image

Based on the above information, answer the following questions:

- (a) Taking O as origin, coordinates of P are  $(-200,0)$  and of Q are  $(200,0)$ . PQRS being a square, what are the coordinates of R and S?
- (b)
  - i. What is the area of square PQRS?
  - ii. What is the length of diagonal PR in PQRS?
- (c) If S divides CA in the ratio  $K:1$ , what is the value of K, where point A is  $(200,800)$ ?