Centroids – Practice
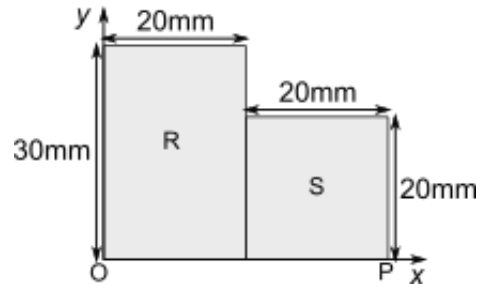
1. A shape is made of a rectangle R and a square S, with dimensions as shown.

   Complete the table below:

	R	S
area/mm²		
x-coordinate of centroid/mm		
y-coordinate of centroid/mm		

   (a) Show that the coordinates of the centroid of the combined shape are (18mm, 13mm).

   (b) The combined shape is suspended freely from point O.
   Calculate the angle that side OP makes with the vertical. *(36°)*

2. Calculate the *x* and *y* coordinates of the centroid of the following areas.
   Dimensions are in mm.

   (x = 27.9, y = 20.7)

   (x = 28.2, y = 27)

   hint: think about symmetry for y-coordinate

   (x = 28.5, y = 20)