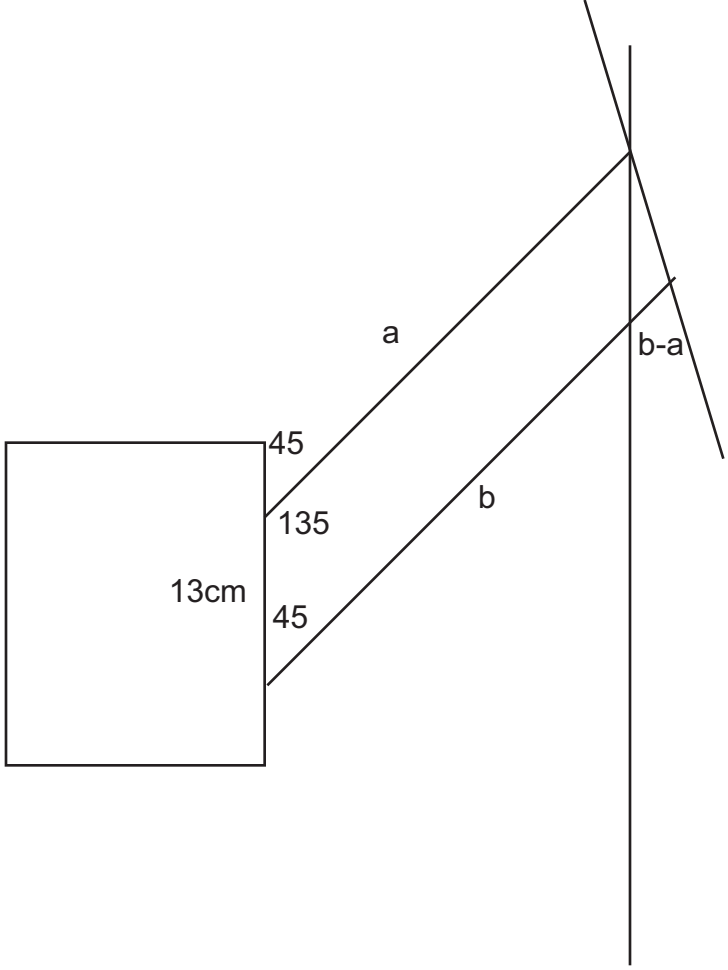
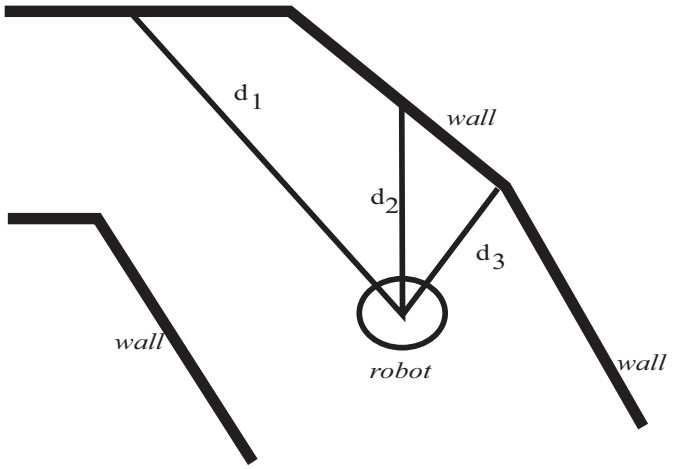
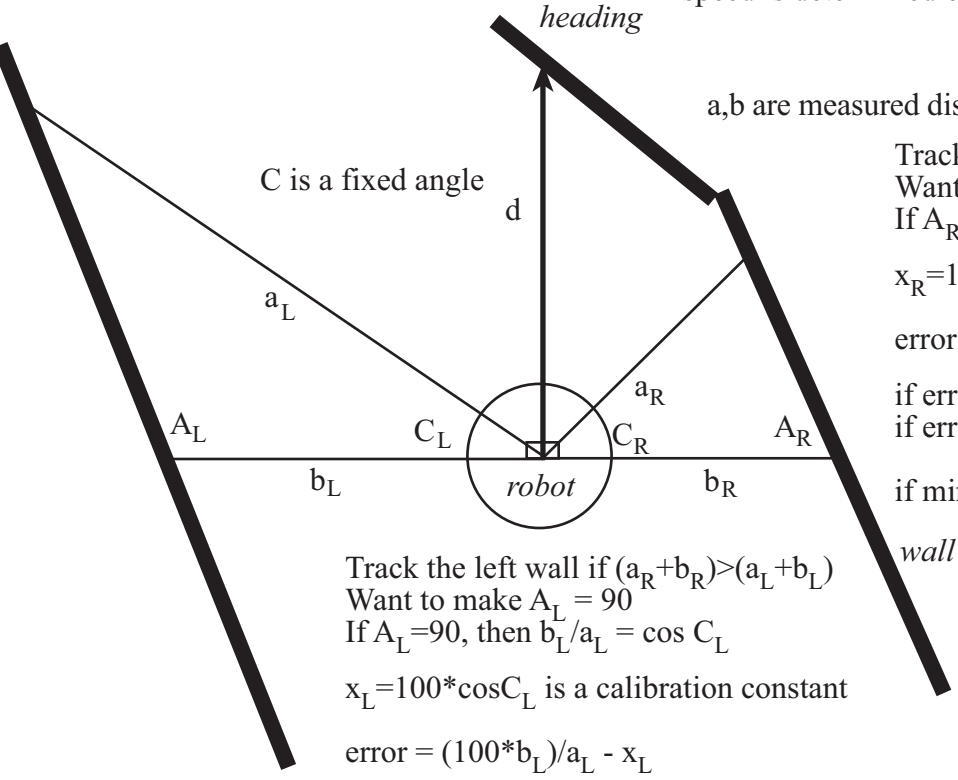
```
if(a+b >40) turn soft right;
else if(a+b < 20) turn soft left;
else if(b>a) turn left;
else if(a>b) turn right;
```





speed is determined by distance,d, to object in front



a,b are measured distances from center of robot to the wall

Track the right wall if $(a_R+b_R)<(a_L+b_L)$
Want to make $A_R = 90$
If $A_R=90$, then $b_R/a_R = \cos C_R$

$x_R=100*\cos C_R$ is a calibration constant

error = $(100*b_R)/a_R - x_R$

if error > 0, $A_R < 90$, turn left
if error < 0, $A_R > 90$, turn right

if $\min(a_R,b_R)<20$, move left-right

Track the left wall if $(a_R+b_R)>(a_L+b_L)$
Want to make $A_L = 90$
If $A_L=90$, then $b_L/a_L = \cos C_L$

$x_L=100*\cos C_L$ is a calibration constant

error = $(100*b_L)/a_L - x_L$

if error > 0, $A_L < 90$, turn right
if error < 0, $A_L > 90$, turn left

if $\min(a_L,b_L)<20$, move right-left