2d Shadowcasting to 3d Shadowcasting

(x-.5, y+.5)

(x+.5, y-.5)

B = (x-.5, y-.5, z+.5)

C = (x+.5, y-.5, z+.5)

A = (x-.5, y+.5, z+.5)
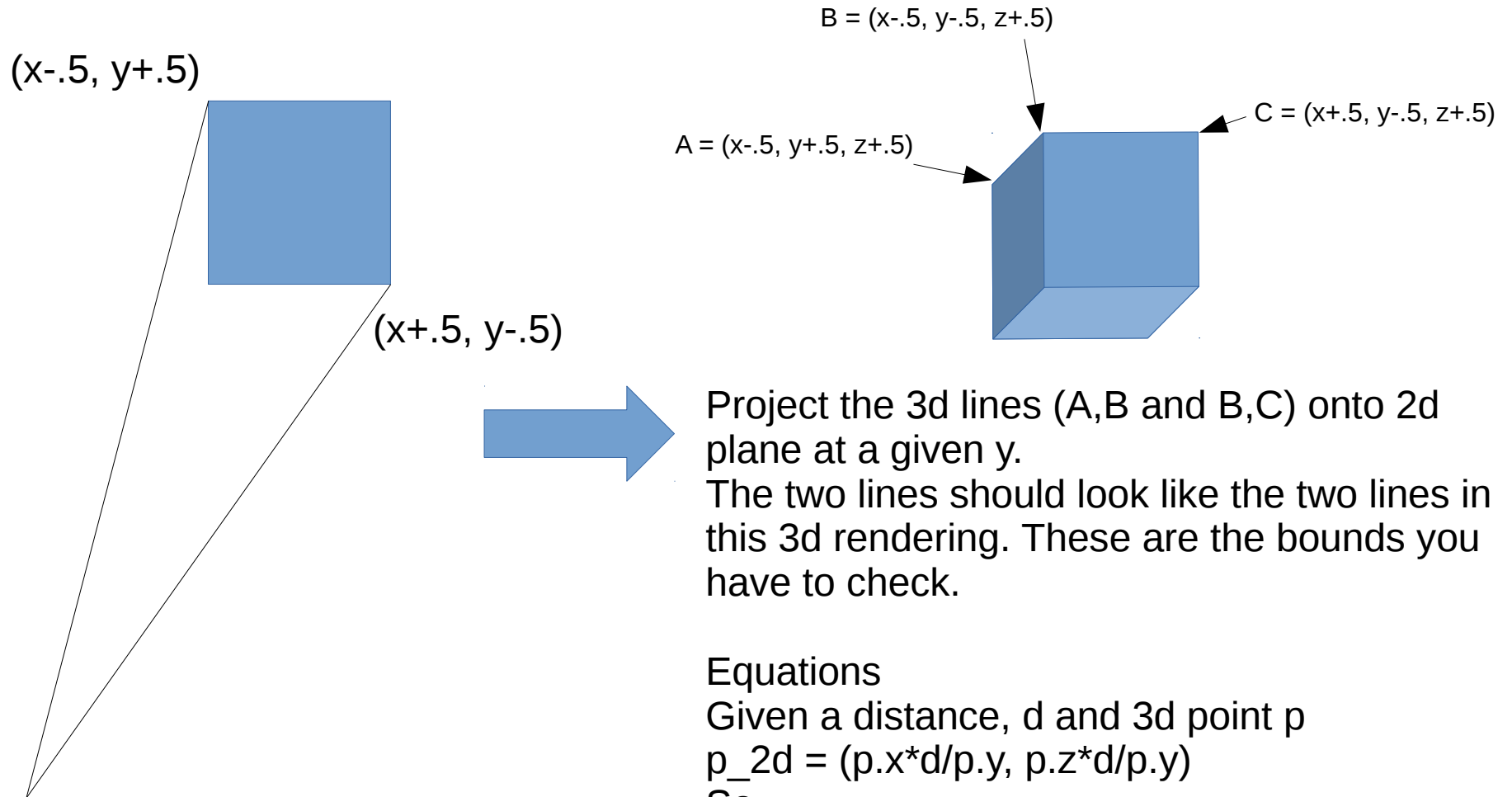
Project the 3d lines (A,B and B,C) onto 2d plane at a given y.
The two lines should look like the two lines in this 3d rendering. These are the bounds you have to check.

Equations
Given a distance, d and 3d point p
$p\_2d = (p.x*d/p.y, p.z*d/p.y)$
So,
$A\_2d = ((x-.5)*d/\mathbf{(y+.5)}, (z+.5)*d/\mathbf{(y+.5)})$
$B\_2d = ((x-.5)*d/\mathbf{(y-.5)}, (z+.5)*d/\mathbf{(y-.5)})$
$C\_2d = ((x+.5)*d/(y-.5), (z+.5)*d/(y-.5))$

The change of division makes lines between makes A_2d to B_2d an extra bit awkward.