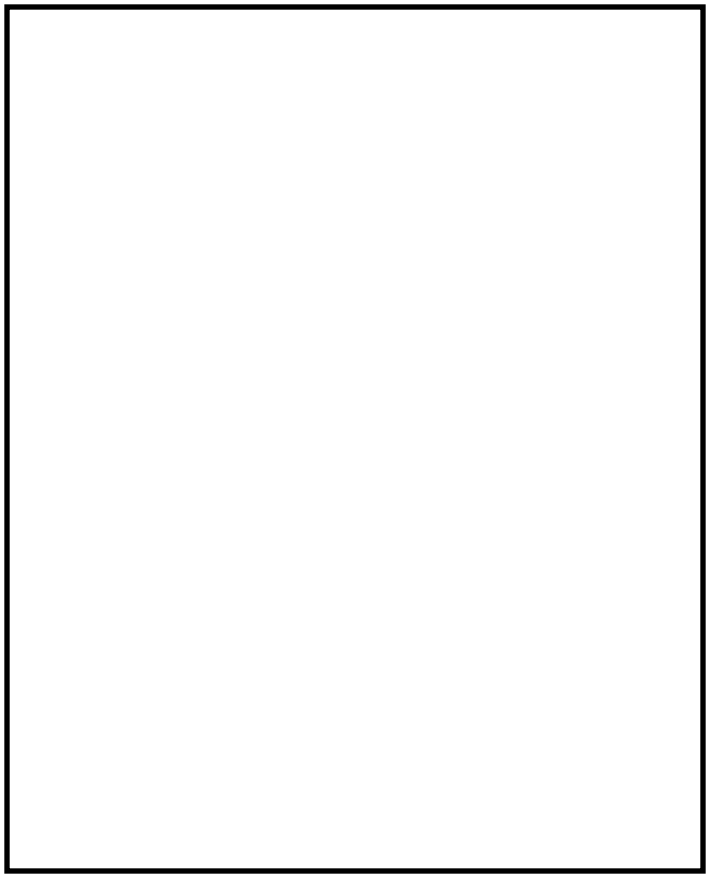
Narrowing the Angle

In the diagram, the striker has escaped all the defenders and only has the goalkeeper to beat.
The goalkeeper is standing on his line and is able to stop a shot 2.5 metres on either side of him.



- *If the goalkeeper stays on his line, at what width of goal could the striker shoot?*
- *What are the two angles of range?*
- *If the goalkeeper moves forward a metre at a time, how do the angles of range change?*
- *What is the least distance the goalie can come off his line in order to be sure he will save the shot?*

Learning and Teaching Objectives

- Use drawings or annotations to help visualise the problem
- Use a systematic approach to solve the problem
- Choose and use a suitable way of recording

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- 1.5m either side
- approx. 7^0 each side, 37^0 for the whole goal
- each metre the goal keeper moves forward reduces the angle at either side by between 1 and 2 degrees
- 4.5metres