

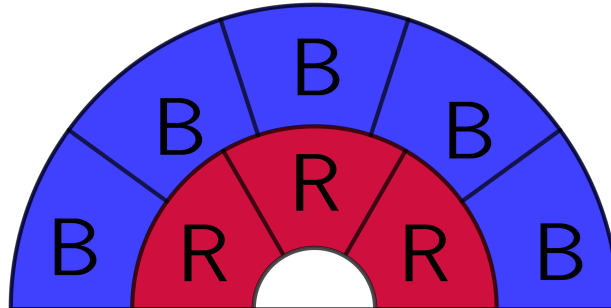


## Problem of the Week

### Problem D

### Coloured Areas

Chandra wishes to paint a sign. The sign is composed of three concentric semi-circles, creating an outer band, a middle band, and an inner semi-circle.



The outer band is divided into five regions of equal area and will be painted blue. Each of these regions is labelled with a  $B$ . The middle band is divided into three regions of equal area and will be painted red. Each of these regions is labelled with an  $R$ . The inner semi-circle will be painted white.

The diameter of the largest semi-circle is 10 m and the diameter of the middle semi-circle is 6 m.

If the ratio of the area of one region marked with an  $R$  to the area of one region marked with a  $B$  is  $5 : 6$ , what is the diameter of the inner semi-circle?

