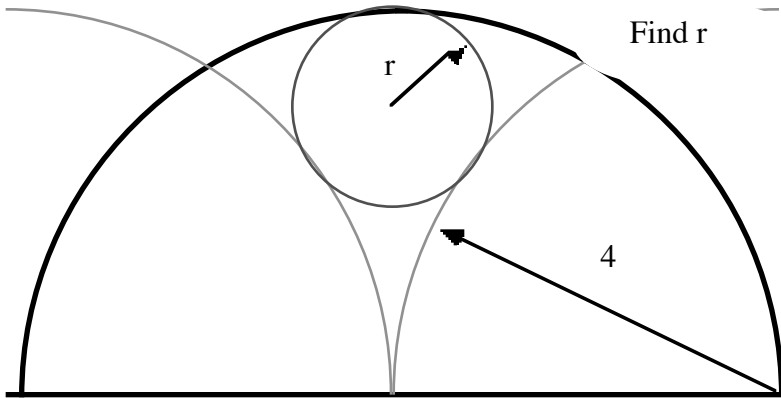
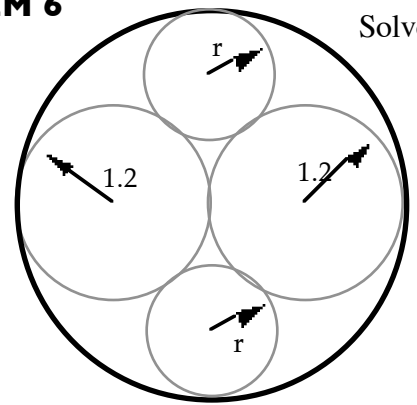


PROBLEM 5



PROBLEM 6

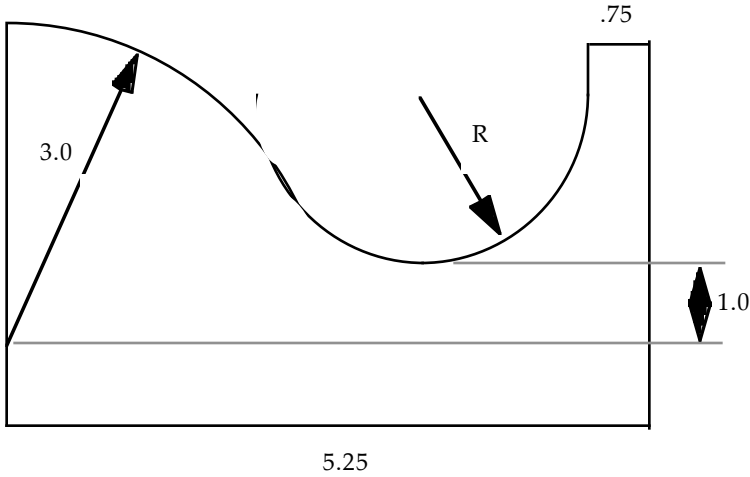


Discovering Triangles,
page 3

Tips:

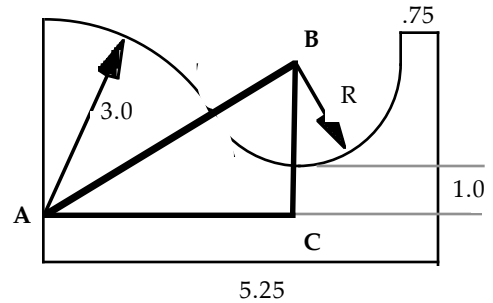
1. Identify important points.
2. If there are two or more circles, connect their centres.
3. A good triangle is one whose sides are known, either as a number or in terms of the unknown.

Solve for R.



Example Problem

SOLUTION



Find triangle (remember that it almost always

includes the line that joins the centers of the circles. $AB = R + 3$ $BC = R + 1$

$$AC = 5.25 - (R + .75) = 4.5 - R$$

Using Pythagorean theorem.

$$(R + 3)^2 = (R + 1)^2 + (4.5 - R)^2$$

$$R^2 + 6R + 9 = R^2 + 2R + 1 + 20.25 - 9R + R^2$$

$$R^2 - 13R + 12.25 = 0$$

$$R = \frac{13 \pm \sqrt{169 - 49}}{2} = 1.0228 \text{ or } 11.977$$

We discard the larger answer as nonsensical