**6.4 Sine Law**

Solving problems in non-right triangles

In any triangle, the lengths of the sides and the sines of the angles opposite the sides are proportional.

ex.1. In $∆$RST, <S = 83, <T = 26 and r = 53. Find the other sides to one decimal place.

***Ambiguous case*** – from the given info, 2 sides and 1 angle opposite one of those sides, the triangle may not exist or there may be 2 triangles or only 1 triangle.

**As long as <A is acute and a<b**, then ***test*** for the number of triangles

(**a<, =, > bsinA** **no solution <**, **one solution =**, **two solutions >**)

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ex. $∆$ABC <A = 30, a = 24cm, b = 42cm

a) How many solutions?

b) Find all angles and sides to the nearest unit.

**Homework p478 #3-7,9-11,13,16**