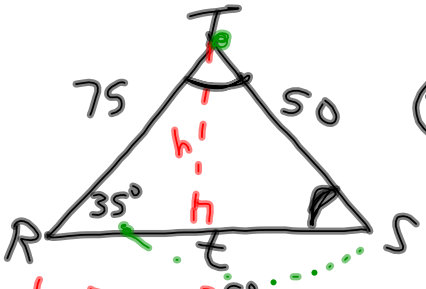
Warm Up

Given ΔRST has angle R = 35° , $r = 50$ and $s = 75$.
Sketch and solve the triangle.
If there is more than one possible, sketch and solve both!!



$h = 75\sin 35°$

$h \doteq 43$ ∴ 2 possible triangles

Option 1: ∠S Acute

~~(75)~~

$\frac{\sin S}{75} = \frac{\sin 35°}{50}(75)$

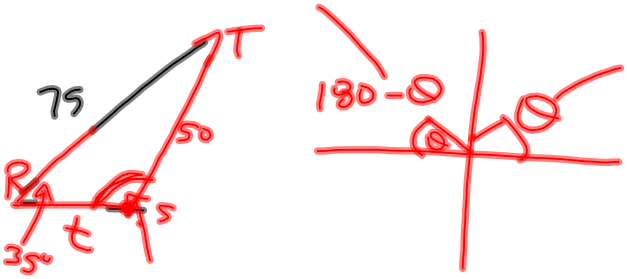
$\sin S = \frac{(\sin 35°)75}{50}$

$S = 59°$ $T = 86°$

$\frac{t}{\sin 86°} = \frac{50}{\sin 35°}$

$t = \frac{50\sin 86°}{\sin 35°} = 87.0$

Option 2:



$S = 180° - 59°$

$S = 121°$ $T = 24°$

$\frac{t}{\sin 24°} = \frac{50}{\sin 35°}$

$t = \frac{50\sin 24°}{\sin 35°}$

$t = 35$

Practice Problems...

Page 109-110

#10 - 18 and #21

#6)

a) $\angle A = 39°$, $a = 10$, $b = 14$

$h = 14 \sin 39°$

$h = 8.8$ 2 triangles

b) $123° = A$, $a = 23$, $b = 12$

$\Rightarrow$ 1 triangle only $\leftarrow$ $a > b$

c) $A = 145°$, $a = 18$, $b = 10$

$a > b$ 1 triangle

d) $12x° = A$, $a = 1$, $b = 2$

$h = 2 \sin 12x°$

$h = 1.7$

Not possible

$h > a$