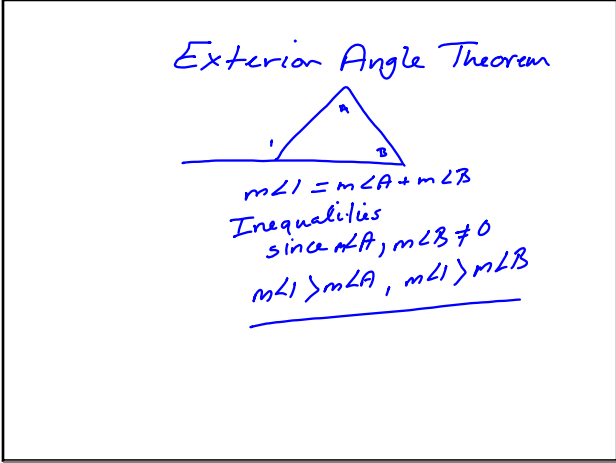
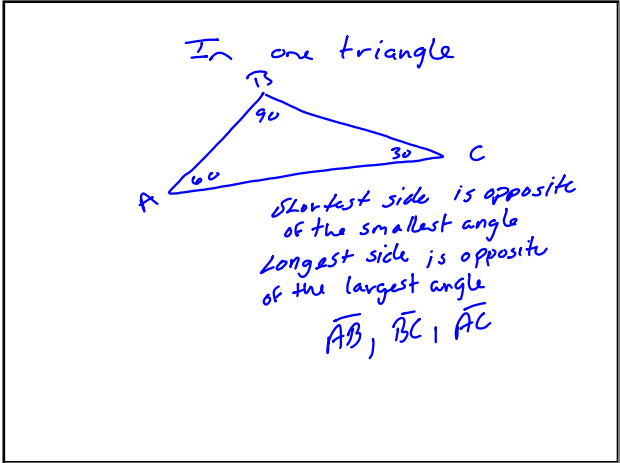
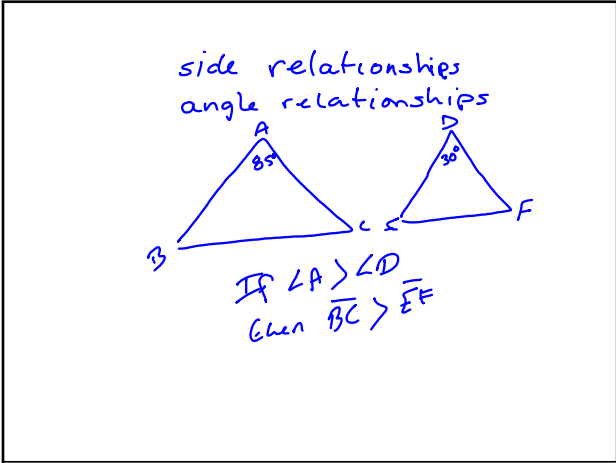


5.5 Inequalities in one triangle

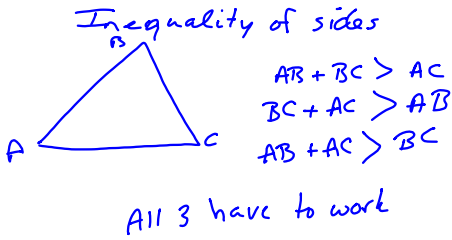
Lots of inequalities occur in triangles



Ranges in Size

In triangles the lengths of two sides must have a sum of more than the 3rd side

2, 2, 5  
3, 5, 8



Two sides of a triangle are 10 and 14

Name the other side X

$$\begin{array}{r}
 X + 10 > 14 \\
 -10 \quad -10 \\
 \hline
 X > 4
 \end{array}$$

$$\begin{array}{r}
 X + 14 > 10 \\
 -14 \quad -14 \\
 \hline
 X > -4
 \end{array}$$

$$\begin{array}{r}
 10 + 14 > X \\
 \hline
 24 > X
 \end{array}$$

$4 < X < 24$