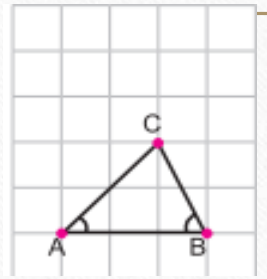
C3: Criterio de semejanza Lado-Lado-Lado (LLL)

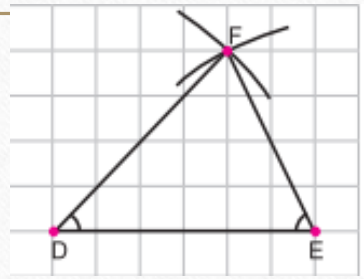
P Construya un Δ tal que:

a) $DE = 2AB$ b) $EF = 2BC$ c) $DF = 2AC$

¿Son semejantes ΔABC y ΔDEF?

S





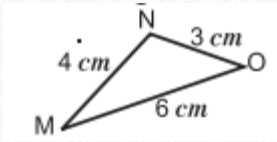
$\measuredangle A = \measuredangle D$, $\measuredangle B = \measuredangle E$ y $\measuredangle C = \measuredangle F$

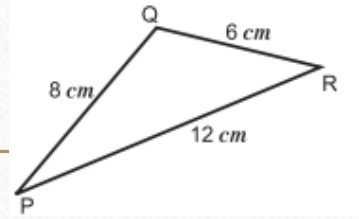
Por lo tanto, $\Delta ABC \sim \Delta DEF$.

C. Criterio de semejanza Lado-Lado-Lado (LLL) Dos triángulos son semejantes si tienen los lados correspondientes proporcionales. En símbolos:

$$\frac{AB}{DE} = \frac{BC}{EF} = \frac{AC}{DF} \Longrightarrow \Delta ABC \sim \Delta DEF$$

Ej. Investigue si los triángulos son semejantes

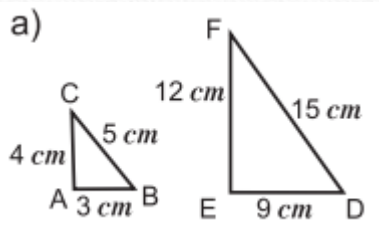


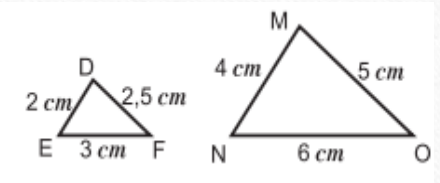


$$\left.\begin{array}{l} \frac{MN}{PQ} = \frac{4}{8} = \frac{1}{2} \\ \frac{NO}{QR} = \frac{3}{6} = \frac{1}{2} \\ \frac{MO}{PR} = \frac{6}{12} = \frac{1}{2} \end{array}\right\} \text{LLL} \Longrightarrow \Delta MNO \sim \Delta PQR$$

E. Investigue si los triángulos son semejantes

a)





a) $\left.\begin{array}{l} \frac{AB}{ED} = \frac{3}{9} = \frac{1}{3} \\ \frac{BC}{DF} = \frac{5}{15} = \frac{1}{3} \\ \frac{AC}{EF} = \frac{4}{12} = \frac{1}{3} \end{array}\right\} \overset{LLL}{\Longrightarrow} \Delta ABC \sim \Delta EDF$

b) $\left.\begin{array}{l} \frac{DE}{MN} = \frac{2}{4} = \frac{1}{2} \\ \frac{EF}{NO} = \frac{3}{6} = \frac{1}{2} \\ \frac{DF}{MO} = \frac{2{,}5}{5} = \frac{1}{2} \end{array}\right\} \overset{LLL}{\Longrightarrow} \Delta DEF \sim \Delta MNO$