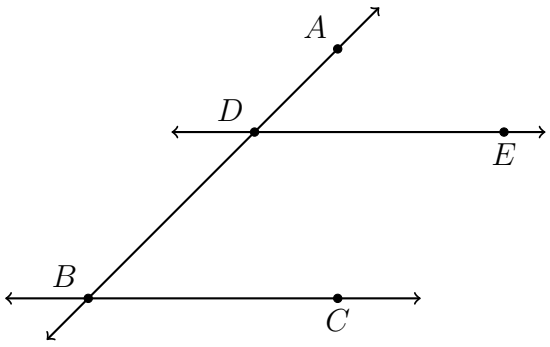
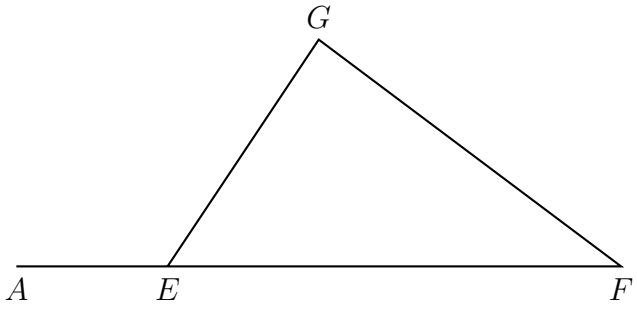
Homework: Triangle relationships (due Wednesday)

1. Given two parallel lines that intersect a transversal, $\overleftrightarrow{DE} || \overleftrightarrow{BC}$. $m\angle ABC = 3x - 5$ and $m\angle BDE = 6x + 5$.
   Find $m\angle ADE$.



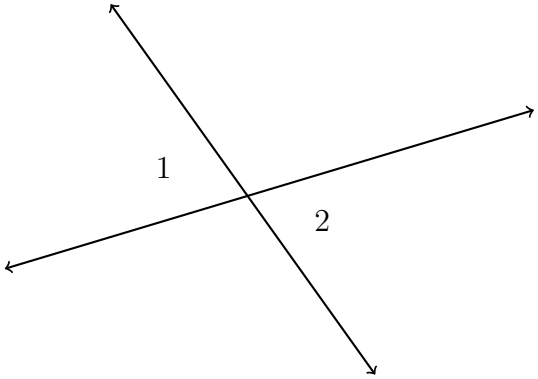
2. Given $\triangle EFG$ with $\overline{EF}$ extended to A. If $m\angle F = 38°$ and $m\angle AEG = 133°$, what is $m\angle EGF$?



3. Given two vertical angles as shown, $m\angle 1 = 5x + 5$, $m\angle 2 = 7x - 17$.

   Find $m\angle 1$.

   For full credit find the $m\angle 2$ as a check.



4. Given $\overrightarrow{BA} \perp \overrightarrow{BC}$, $m\angle ABD = 5x + 47$, and $m\angle DBC = 2x + 22$. Find $m\angle DBC$.

   For full credit, show the check using both angle measures.