

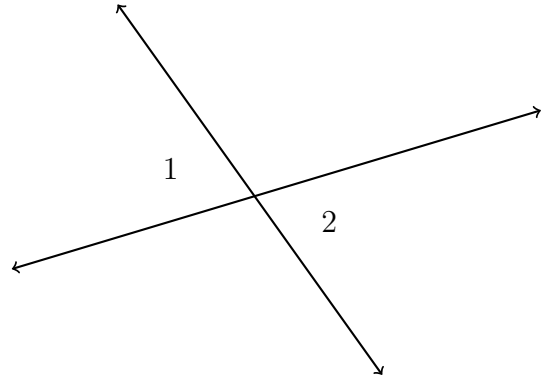
### Homework: Angle relationships

Find the section in your notebook with the theorems and formulas applying to these angle problems.

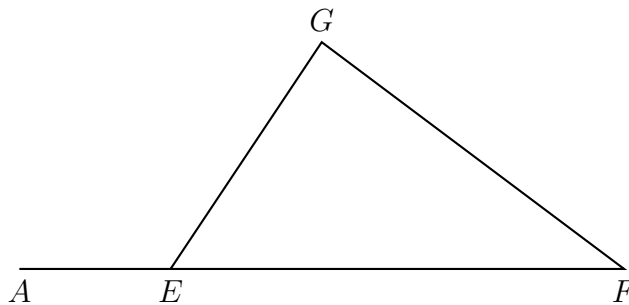
1. Given two vertical angles as shown,  $m\angle 1 = 5x + 5$ ,  $m\angle 2 = 7x - 17$ .

Find  $m\angle 1$ .

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

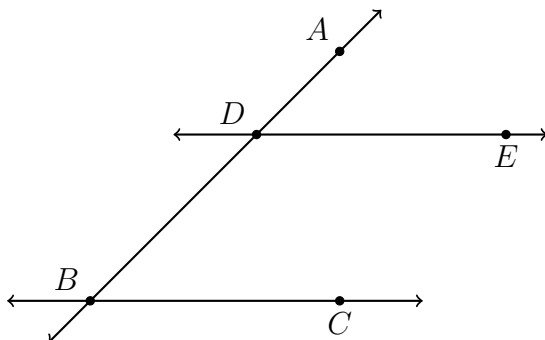


2. Given  $\triangle EFG$  with  $\overline{EF}$  extended to  $A$ . If  $m\angle F = 40^\circ$  and  $m\angle AEG = 130^\circ$ , what is  $m\angle EGF$ ?



3. Given two parallel lines that intersect a transversal,  $\overleftrightarrow{DE} \parallel \overleftrightarrow{BC}$ .  $m\angle ABC = 3x - 8$  and  $m\angle BDE = 6x + 8$ .

Find  $m\angle ADE$ .



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.

