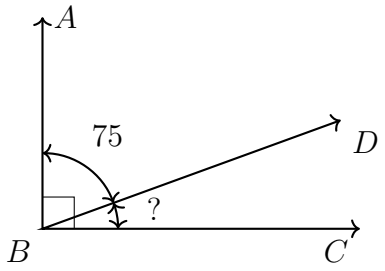
3.3 Homework: Mixed review

1. Apply the Angle Addition postulate. Write and equation to support your work.

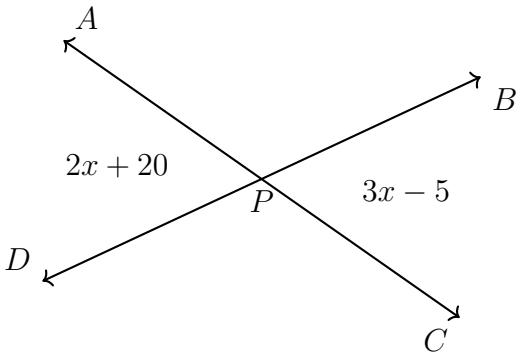
   Given $\text{m}\angle ABD = 75°$, $\text{m}\angle ABC = 90°$.

   Find $m\angle CBD$.

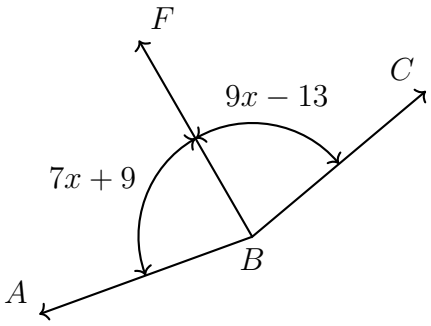
2. Given vertical angles, $\text{m}\angle APD = 3x - 5$, $\text{m}\angle BPC = 2x + 20$, as shown.

   Find x. Check your solution for full credit.

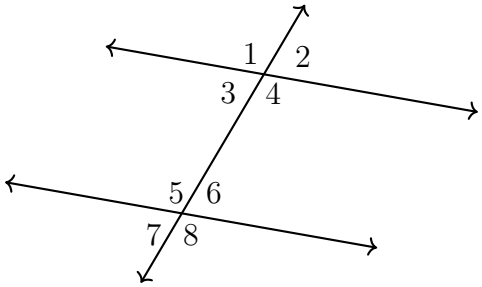
3. Ray $\overrightarrow{BF}$ is the angle bisector of $\angle ABC$. Given that the angle measures are $\text{m}\angle ABF = 7x + 9$ and $\text{m}\angle CBF = 9x - 13$.

   Find $\text{m}\angle ABC$.

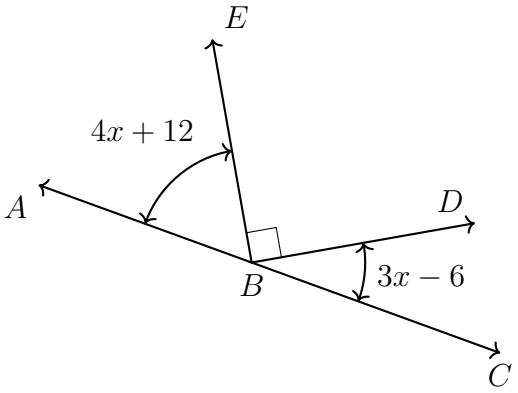
4. Find $m\angle 1$ given two parallel lines and a transversal, with

   $m\angle 3 = 2x + 17 \qquad m\angle 5 = 4x - 5$



5. Given $\overleftrightarrow{ABC}$, right angle $\angle DBE$, $\text{m}\angle ABE = 4x + 12$, and $\text{m}\angle CBD = 3x - 6$.

   Find $\text{m}\angle CBD$.



6. Ray $\overrightarrow{XL}$ is the angle bisector of $\angle KXM$. Given $\text{m}\angle JXN = 2x + 3$.

   Find x.