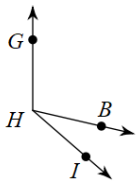
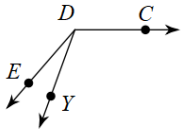
Geometry: Angle Addition and Angle Bisector Practice

Directions: Show your geometry and justifications to answer the following questions.

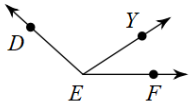
1) $m\angle GHB = 103°$ and $m\angle BHI = 28°$. Find $m\angle GHI$.



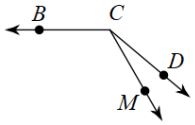
2) $m\angle CDY = 110°$ and $m\angle CDE = 131°$. Find $m\angle YDE$.



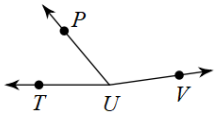
3) Find x if $m\angle YEF = 6x + 3$, $m\angle DEY = 105°$, and $m\angle DEF = 27x + 3$.



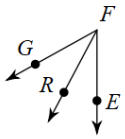
4) Find x if $m\angle MCB = x + 130$, $m\angle DCM = x + 30$, and $m\angle DCB = 140°$.



5) $m\angle TUP = 50°$, $m\angle TUV = 172x$, and $m\angle PUV = 121x + 1$. Find $m\angle TUV$.

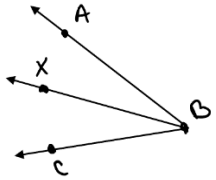


6) $m\angle EFR = 8x - 4$, $m\angle EFG = 61°$, and $m\angle RFG = 7x + 5$. Find $m\angle RFG$.

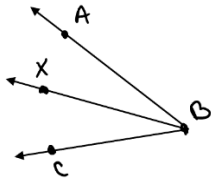


Directions*: $\overrightarrow{BX}$ *is an angle bisector of* $\angle ABC$. *The figure may not be drawn to scale. **Each question is independent. Show your geometry and justifications.**

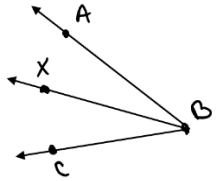
7. If $m < ABX = 5x$ and $m < XBC = 3x + 10$, find x and $m < ABC$.



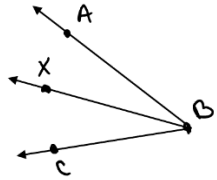
8. If $m < ABC = 4x - 12$ and $m < ABX = 24$, find x.



9. If $m < ABC = 4x + 16$ and $m < CBX = 3x + 6$, find x.



10. If $m < ABC = 5x + 18$ and $m < CBX = 2x + 12$, find x and $m < ABC$.



Solutions:

#1-6 See Angle Addition Pactice Key

7. $\mathrm{x} = 5,\ m < ABC = 50°$

8. $x = 15$

9. $x = 2$

10. $x = 6,\ m < ABC = 48°$