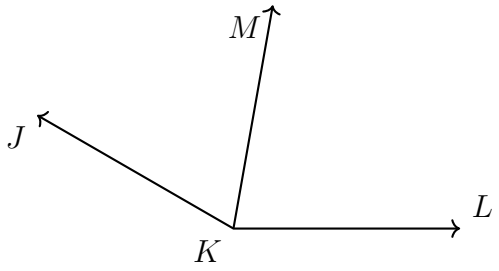
2.4 Homework: Modeling with algebra, "Do Not Solve!"

1. The ray $\overrightarrow{KM}$ bisects $\angle JKL$. Given $\text{m}\angle JKM = 4x - 20$ and $\text{m}\angle MKL = 3x + 4$. Identify the true statement(s).

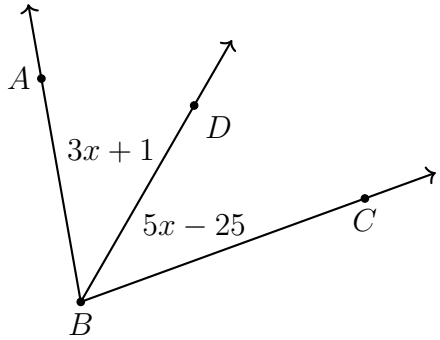
   (a) $\angle JKM$ and $\angle MKL$ are a linear pair
   $(4x - 20) + (3x + 4) = 180°$

   (b) $\angle JKM$, $\angle MKL$ are adjacent and
   $4x - 20 = 90°$

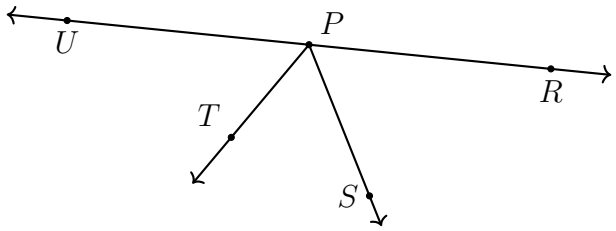
   (c) $\angle JKM \cong \angle MKL$
   $4x - 20 = 3x + 4$



2. The ray $\overrightarrow{BD}$ bisects $\angle ABC$. $\text{m}\angle ABD = 3x + 1$, $\text{m}\angle DBC = 5x - 25$. Find $\text{m}\angle ABC$.



3. Given the situation in the diagram, answer each question. Circle True or False.



   (a) True or False: $\overrightarrow{RP}$ and $\overrightarrow{UP}$ are opposite rays.

   (b) True or False: $\angle TPR$ is supplementary to $\angle TPU$.

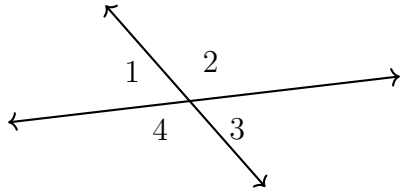
   (c) True or False: $\angle RPS$ and $\angle TPS$ are complementary angles.

   (d) True or False: $\angle RPS$ and $\angle TPU$ are vertical angles.

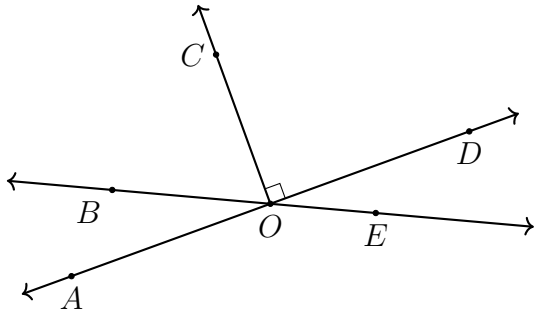
Do Not Solve!

Model the situation with an equation. Circle where it states what to solve for.

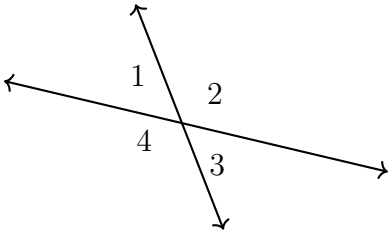
4. Two lines intersect making four angles: $\angle 1$, $\angle 2$, $\angle 3$, and $\angle 4$. Given that $\text{m}\angle 1 = 4x + 30$ and $\text{m}\angle 2 = 8x - 10$. Find x.



5. In the diagram below $\angle AOB = 30°$ and $\angle COB = 5x + 10$. Find x.



6. Given that $\text{m}\angle 2 = 5x + 30$ and $\text{m}\angle 4 = 7x - 10$ as shown in the diagram, find $\text{m}\angle 2$.



7. In the diagram below $\angle DOE = 60°$ and $\angle DOB = 13x - 10$. Find x.