Name:

BECA / Dr. Huson / Geometry

2.4 Exit Note: 7.G.B.5 Use angle facts; 8.EE.C.7.b Solve equations

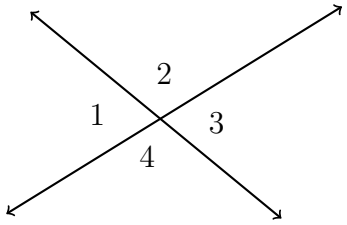
1. Identify the correct statement.

   (a) $\angle 1 \cong \angle 4$

   (b) $\angle 2 \cong \angle 3$

   (c) $m\angle 1 + m\angle 2 = 90°$

   (d) $m\angle 1 + m\angle 2 = 180°$



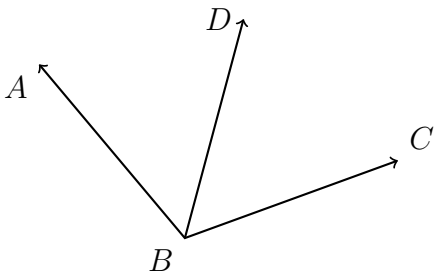
   Given that $m\angle 1 = 3x - 10$, $m\angle 2 = 2x + 40$, $m\angle 3 = 2x + 20$, and $m\angle 4 = 4x - 20$. Use the equation you chose in the first part to find x.

2. The ray $\overrightarrow{BD}$ bisects $\angle ABC$. Given $m\angle ABD = 3x + 7$ and $m\angle DBC = 4x - 9$. Identify the true statement(s).

   (a) $\angle ABD$, $\angle DBC$ are adjacent and $4x - 9 = 180°$

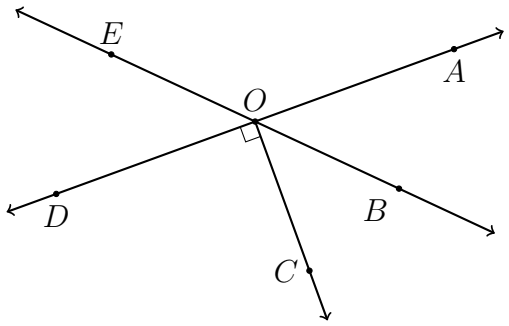
   (b) $\angle ABD$ and $\angle DBC$ are a linear pair $(3x + 7) + (4x - 9) = 180°$

   (c) $\angle ABD \cong \angle DBC$ $3x + 7 = 4x - 9$



   Copy the correct equation and find $m\angle ABD$. Check your answer.

3. Identify the true statement(s) given $\angle AOB = 4x - 4$ and $\angle DOE = 6x - 26$.



   (a) $\angle AOB$, $\angle DOE$ are complementary
   $(4x - 4) + (6x - 26) = 90°$

   (b) $\angle AOB \cong \angle DOE$ are vertical angles,
   $4x - 4 = 6x - 26$

   (c) $\angle AOB$ and $\angle DOE$ are a linear pair
   $(4x - 4) + (6x - 26) = 180°$

   Copy the correct equation and solve for x. Check your answer.

4. The ray $\overrightarrow{KM}$ bisects $\angle JKL$. Given $m\angle JKM = 5x + k$ and $m\angle JKL = 12x - 34 + 2k$.

   (a) Find x.

   (b) Given that $\angle JKM$ is obtuse, what are the potential values of k?