

Example 1

□ Use the diagram to answer the following

1) Name the vertex and the sides of $\angle 1$.

$A, \overrightarrow{AB}, \overrightarrow{AD}$

2) Name all angles adjacent to $\angle 6$.

$\angle 5, \angle 7$

3) Name three angles that have

B as the vertex.

$\angle 2, \angle 3, \angle ABC$

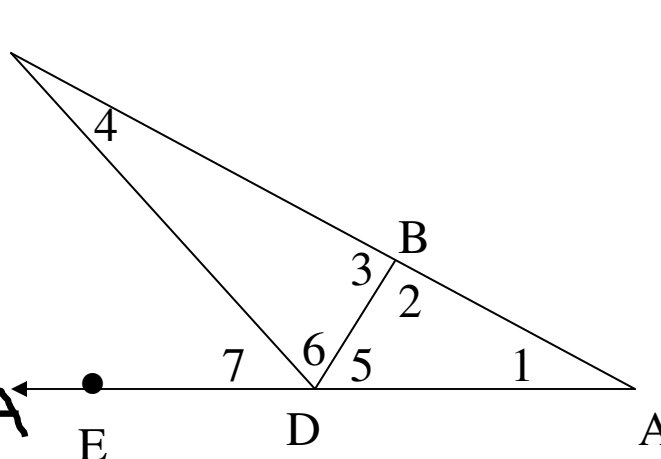
1) How many angles have D

as the vertex?

$\angle 7, \angle 6, \angle 5$

$\angle BDE, \angle CDA, \angle EDA$

6



Example 3

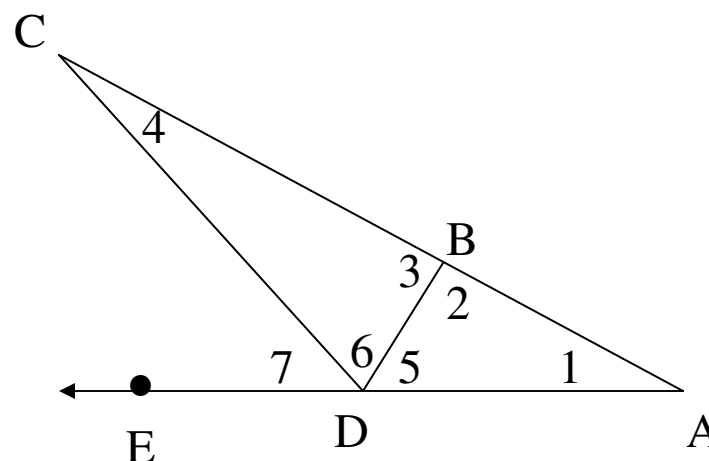
□ Use the diagram to answer the following

1) $m\angle 7 + m\angle 6 = m\angle$ BDE

2) $m\angle 2 + m\angle 3 = m\angle$ ABC

3) If $\overrightarrow{DB}$ bisects $\angle CDA$, then

$m\angle$ 5 $= m\angle$ 6



Example 4

□ Use the diagram to state whether you can reach the conclusion shown (yes or no).

1) $m\angle FOB = 50^\circ$ *yes*

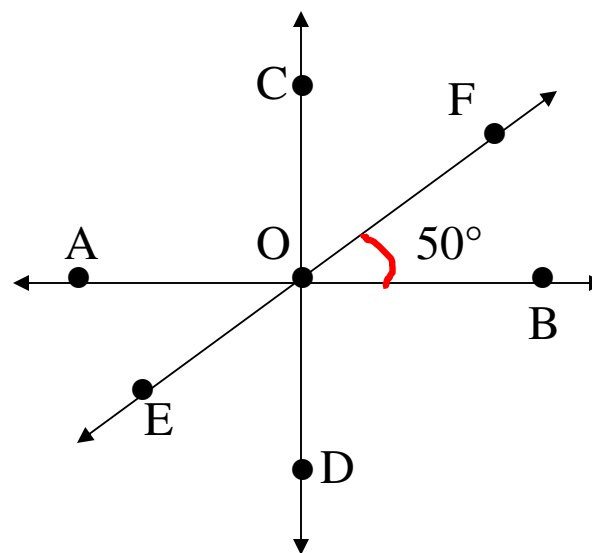
2) $m\angle AOC = 90^\circ$ *no*

3) $m\angle DOC = 180^\circ$ *yes*

4) $AO = OB$ *no*

5) $m\angle AOC = m\angle BOC$ *no*

6) $m\angle AOF = 130^\circ$ *yes*



Example 4

Solve for x :

ALGEBRA Given that $m \angle LKN = 145^\circ$, find $m \angle LKM$ and $m \angle MKN$.

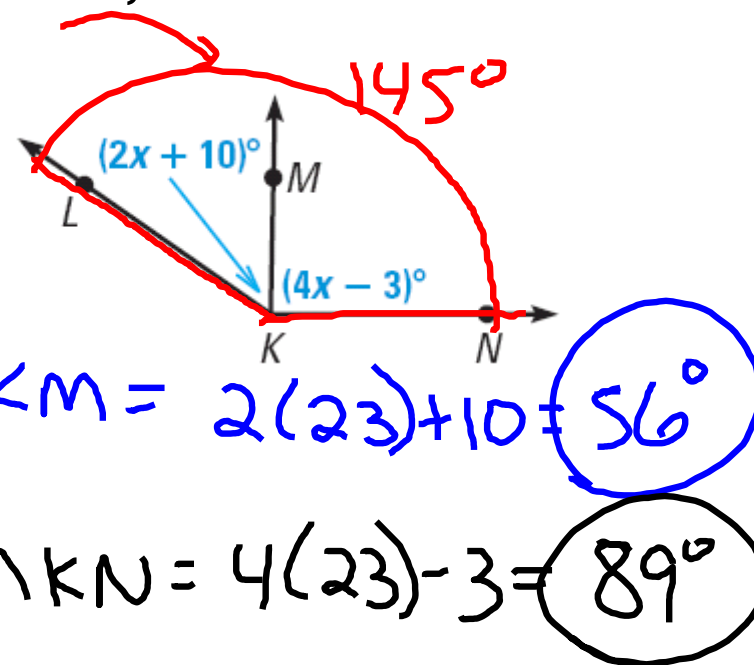
$$2x + 10 + 4x - 3 = 145$$

$$6x + 7 = 145$$

$\begin{array}{cc} -7 & -7 \end{array}$

$$\frac{6x}{6} = \frac{138}{6}$$

$$x = 23$$



Example 5

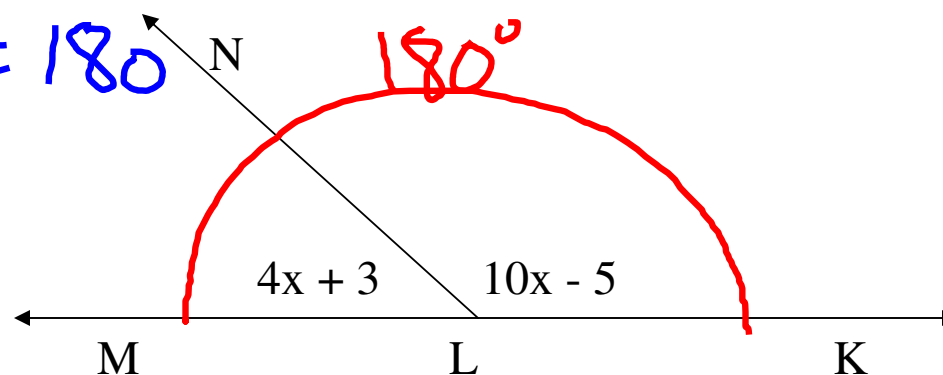
Given that $\angle KLM$ is straight angle, find $m\angle KLN$ and $m\angle NLM$.

$$4x + 3 + 10x - 5 = 180$$

$$14x - 2 = 180$$

$$14x = 182$$

$$x = 13$$



$$m\angle KLN = 10(13) - 5 = 125^\circ$$

$$m\angle NLM = 4(13) + 3 = 55^\circ$$

Example 6

- Name the congruent angles

Use the diagram shown below.

$$\angle P \cong \angle R$$

$$\angle T \cong \angle S$$

