Vertical, Supplementary, Complementary Angles (Algebraic)
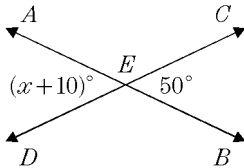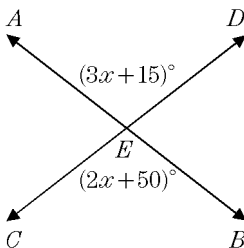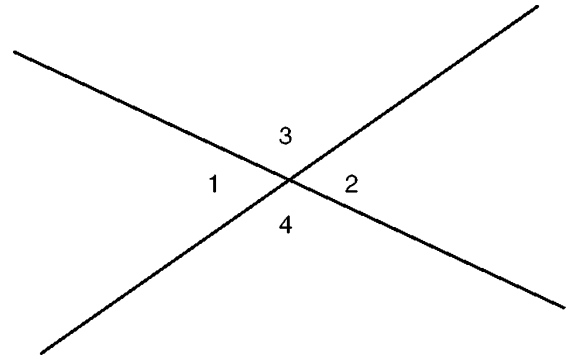
Math 2

Name: _____

Date: _____

1. In the accompanying diagram, lines $\overleftrightarrow{AB}$ and $\overleftrightarrow{CD}$ intersect at point E. If $m\angle AED = (x + 10)$ and $m\angle CEB = 50$, find x.

3. In the accompanying figure, two lines intersect, $m\angle 3 = 6t + 30$, and $m\angle 2 = 8t - 60$. Find the number of degrees in $m\angle 4$.
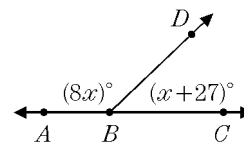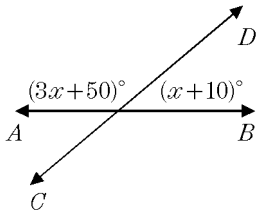

2. In the accompanying diagram, $\overleftrightarrow{AB}$ and $\overleftrightarrow{CD}$ intersect at E, and $m\angle AED = 3x + 15$. If $m\angle CEB = 2x + 50$, find the value of x.
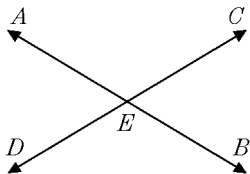

4. In the accompanying diagram, $\overleftrightarrow{ABC}$ is a straight line. $m\angle ABD = 8x$, and $m\angle DBC = x + 27$. Find x.
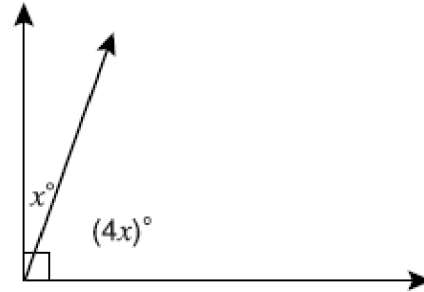
5. In the accompanying diagram, the adjacent angles formed by intersecting lines $\overleftrightarrow{AB}$ and $\overleftrightarrow{CD}$ have measures of $3x + 50$ and $x + 10$. Find x.

7. What is the value of x in the figure below?

A. $x = 18$ B. $x = 22$

C. $x = 30$ D. $x = 45$

8. The measures of two complementary angles are represented by $x + 5$ and $4x - 15$. Find the value of x.

6. In the accompanying diagram, $\overleftrightarrow{AB}$ and $\overleftrightarrow{CD}$ intersect at E. If $m\angle AEC = 2x + 40$ and $m\angle CEB = x + 20$, find x.

9. Two angles are complementary. If the measure of one angle is $20°$ more than the measure of the second angle, what is the number of degrees in the measure of the *smaller* angle?