

Section 1.9 Right Angles and Perpendicular Lines

Perpendicular lines are two lines that intersect to form right angles.

Notation: $\overline{US} \perp \overline{RT}$ means that \overline{US} is perpendicular to \overline{RT}

Example:

Given: $\overline{US} \perp \overline{RT}$
 $\angle BAF$ and $\angle CAE$ are vertical angles
 $\angle CAE$ and $\angle FAE$ form a linear pair

Find: $m\angle CAD$ and $m\angle FAE$

Solution:

$\angle BAF$ and $\angle CAE$ are vertical angles

$$8x - 11 = x + 18 + 90$$

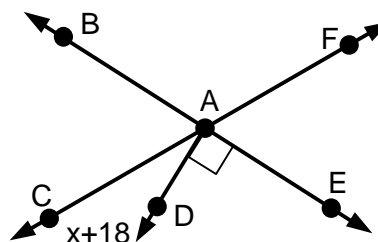
$$7x = 119$$

$$x = 17 \therefore m\angle CAD = 17 + 18 = 35$$

$$35 + 90 + m\angle FAE = 180 \quad \text{linear pair}$$

$$125 + m\angle FAE = 180$$

$$m\angle FAE = 55^\circ$$



Constructions: Perpendicular lines through a point on the line and a point off the line. Pages 57 and 58 have instructions for construction perpendicular lines. Please follow along those instructions.