

Speak Like A Mathematician:

adjacent angles:

complementary angles:

supplementary angles:

vertical angles:

linear pair:

Types of Angles

Acute

Right

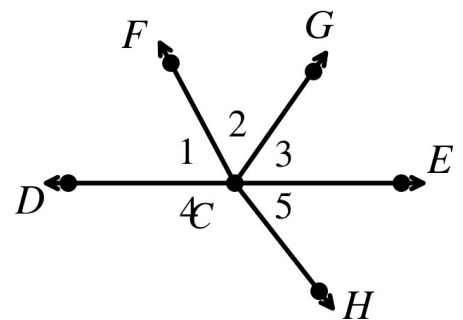
Obtuse

Straight

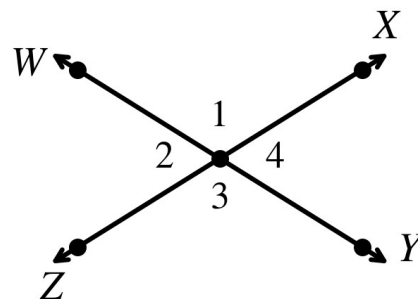
Example 1 - Adjacent, Linear Pair, or Not?

Tell whether the angles are only adjacent, adjacent and form a linear pair, or not adjacent.

- a) $\angle 1$ and $\angle 2$
- b) $\angle 4$ and $\angle 5$
- c) $\angle 1$ and $\angle 3$
- d) $\angle 3$ and $\angle 5$
- e) $\angle 1$ and $\angle 5$

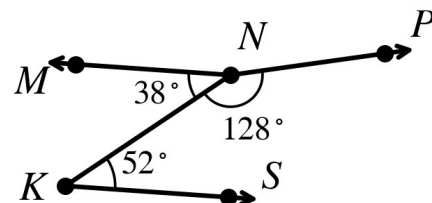


Example 2 - Name the Pairs of Vertical Angles



Example 3 - Use the Figure

- Name a pair of complementary angles.
- Name a pair of supplementary angles.
- Name a pair of adjacent angles.
- Are $\angle KNP$ and $\angle NKS$ adjacent angles?
- Are $\angle MNK$ and $\angle MNP$ adjacent angles?



Example 4 - Complementary Algebra

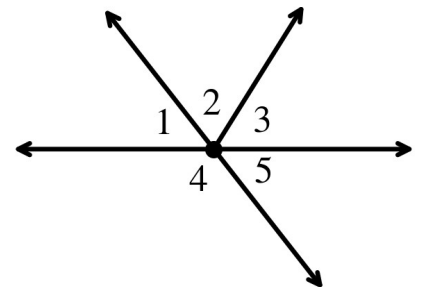
$\angle ABC$ and $\angle DEF$ are complementary angles. Find the measures of the angles when $m\angle ABC = (7x - 5)^\circ$ and $m\angle DEF = (12x)^\circ$.

Example 5 - Supplementary Algebra

$m\angle GHJ = 6x^\circ$ and $m\angle KLM = (3x + 18)^\circ$. If $\angle GHJ$ and $\angle KLM$ are supplementary, find the measure of each angle.

Example 6 - Use the Figure

- Which angles (if any) form a linear pair with $\angle 4$?
- Which angle is vertical with $\angle 5$?
- Describe how $\angle 2$ and $\angle 3$ are related.



Example 7 - Both Ways

$m\angle XYZ = 3x^\circ$ and $m\angle PQR = (7x - 30)^\circ$.

- If $\angle XYZ$ and $\angle PQR$ are supplementary, find the measure of each angle.
- If $\angle XYZ$ and $\angle PQR$ are complementary, find the measure of each angle.

Example 8 - Vertical Angles, Linear Pair, or Neither

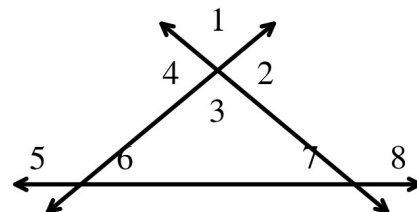
Using the diagram, tell whether the angles are vertical angles, a linear pair, or neither.

_____ $\angle 1$ and $\angle 3$

_____ $\angle 2$ and $\angle 3$

_____ $\angle 5$ and $\angle 6$

_____ $\angle 6$ and $\angle 7$



Example 9 - Angle Pairs in a Truss

Use the angles identified in the figure to name two pairs of each indicated type of angle pair.

Complementary angles $\angle$ ____ & $\angle$ ____ $\angle$ ____ & $\angle$ ____

Supplementary angles $\angle$ ____ & $\angle$ ____ $\angle$ ____ & $\angle$ ____

Vertical angles $\angle$ ____ & $\angle$ ____ $\angle$ ____ & $\angle$ ____

Linear pair $\angle$ ____ & $\angle$ ____ $\angle$ ____ & $\angle$ ____

Adjacent angles $\angle$ ____ & $\angle$ ____ $\angle$ ____ & $\angle$ ____

