

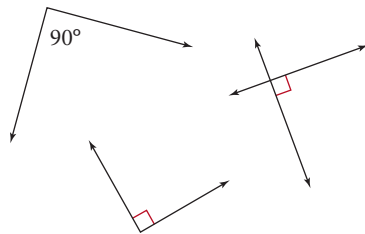
Investigation • Defining Angles

Name _____ Period _____ Date _____

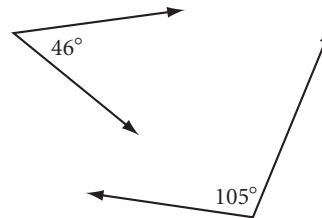
Here are some examples and non-examples of special types of angles.

- Step 1** Write a definition for each boldfaced term in the space below each set of diagrams. Make sure your definitions highlight important differences.
- Step 2** Trade definitions and test each other's definitions by looking for counterexamples.
- Step 3** If another group member finds a counterexample to one of your definitions, write a better definition. As a group, decide on the best definition for each term.
- Step 4** As a class, agree on common definitions. Add these to your notebook. Draw and label a picture to illustrate each definition.

Right Angle

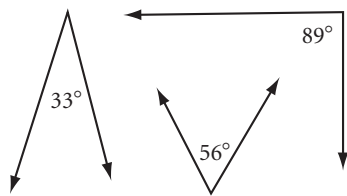


Right angles

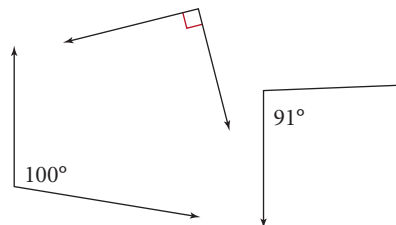


Not right angles

Acute Angle



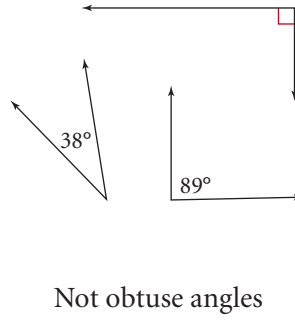
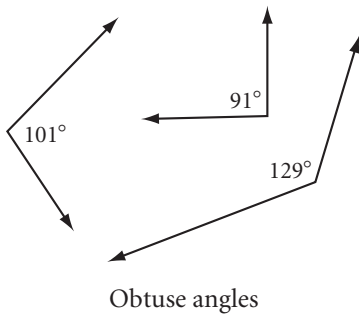
Acute angles



Not acute angles

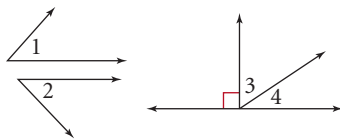
Investigation • Defining Angles (continued)

Obtuse Angle



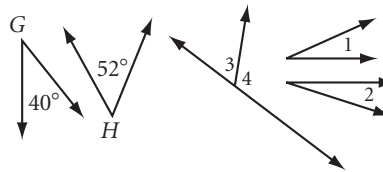
Complementary Angles

$m\angle 1 + m\angle 2 = 90^\circ$



Pairs of complementary angles:
 $\angle 1$ and $\angle 2$
 $\angle 3$ and $\angle 4$

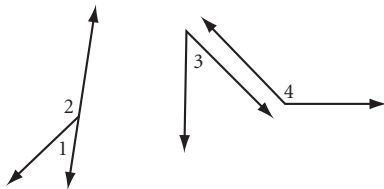
$m\angle 1 + m\angle 2 \neq 90^\circ$



Not pairs of complementary angles:
 $\angle G$ and $\angle H$ $\angle 1$ and $\angle 2$
 $\angle 3$ and $\angle 4$

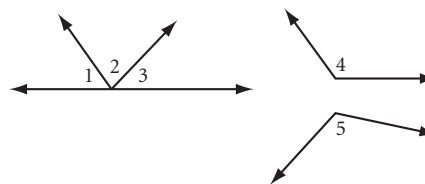
Supplementary Angles

$m\angle 3 + m\angle 4 = 180^\circ$



Pairs of supplementary angles:
 $\angle 1$ and $\angle 2$
 $\angle 3$ and $\angle 4$

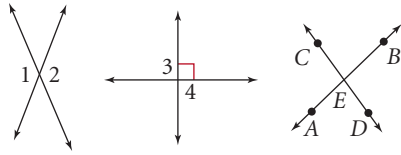
$m\angle 4 + m\angle 5 > 180^\circ$



Not pairs of supplementary angles:
 $\angle 1, \angle 2,$ and $\angle 3$
 $\angle 4$ and $\angle 5$

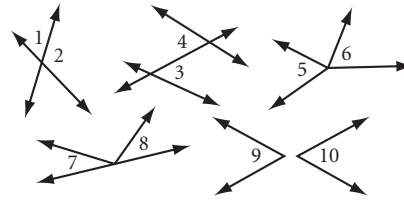
Investigation • Defining Angles (continued)

Vertical Angles



Pairs of vertical angles:

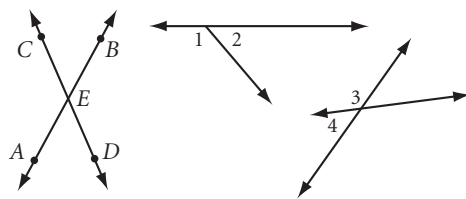
- $\angle 1$ and $\angle 2$
- $\angle 3$ and $\angle 4$
- $\angle AED$ and $\angle BEC$
- $\angle AEC$ and $\angle DEB$



Not pairs of vertical angles:

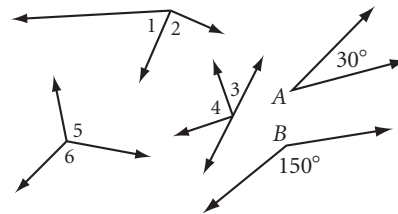
- $\angle 1$ and $\angle 2$
- $\angle 3$ and $\angle 4$
- $\angle 5$ and $\angle 6$
- $\angle 7$ and $\angle 8$
- $\angle 9$ and $\angle 10$

Linear Pair of Angles



Linear pairs of angles:

- $\angle 1$ and $\angle 2$
- $\angle 3$ and $\angle 4$
- $\angle AED$ and $\angle AEC$
- $\angle BED$ and $\angle DEA$



Not linear pairs of angles:

- $\angle 1$ and $\angle 2$
- $\angle 3$ and $\angle 4$
- $\angle 5$ and $\angle 6$
- $\angle A$ and $\angle B$