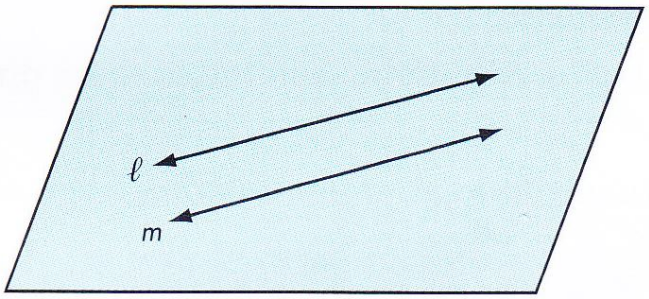
1.4

ANGLE PAIRS

1. Define *parallel lines.*

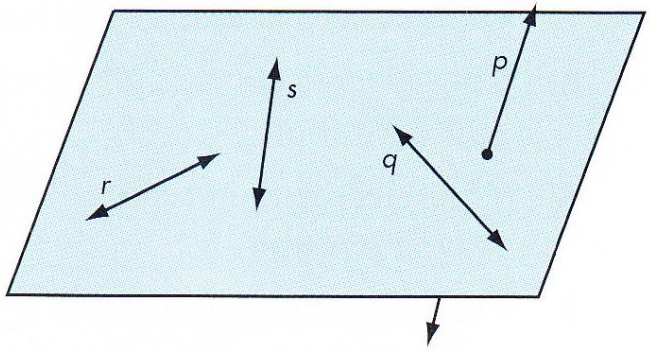
Parallel lines



$\ell \parallel m$

Note: Lines are sometimes labeled and named with lowercase letters. The symbol $\parallel$ means "is parallel to."

Not parallel lines

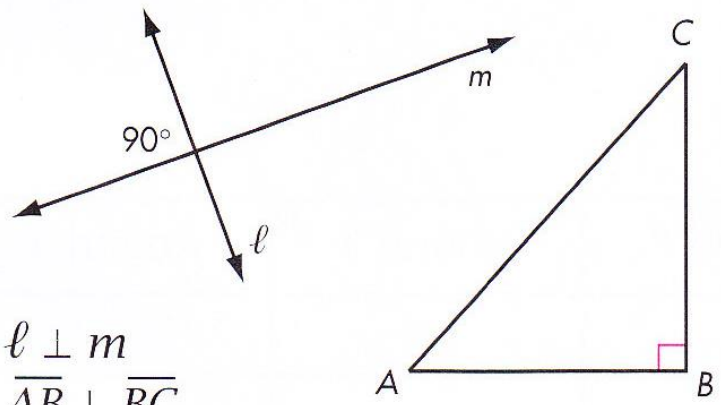


Line r is not parallel to line s.
Line p is not parallel to line q.
Note: Lines p and q are not in the same plane. Such lines are called **skew** lines.

SKEW LINES

2. Define *perpendicular lines.*

Perpendicular lines

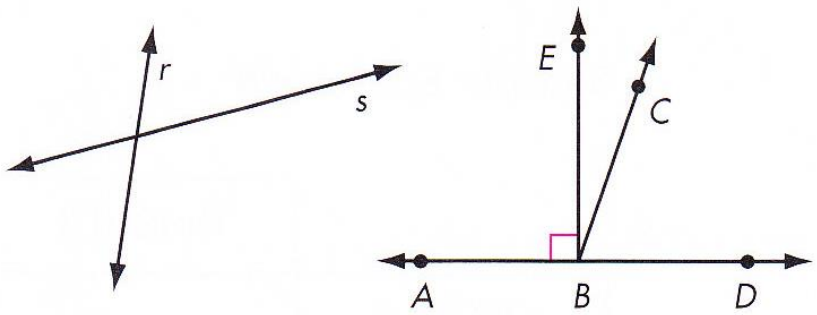


$\ell \perp m$

$\overline{AB} \perp \overline{BC}$

Note: The symbol $\perp$ means "is perpendicular to."

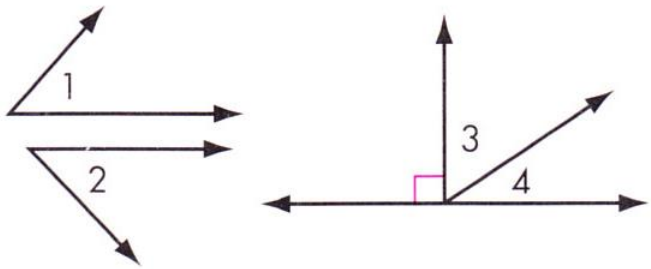
Not perpendicular lines



Line *r* is not perpendicular to line *s*.
Ray *BC* is not perpendicular to line *AD*.

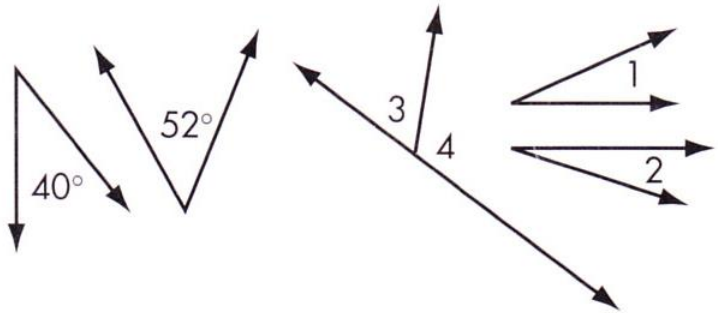
3. Define *pair of complementary angles.*

Pairs of complementary angles



$m\angle 1 + m\angle 2 = 90^\circ$
$m\angle 3 + m\angle 4 = 90^\circ$

Not pairs of complementary angles

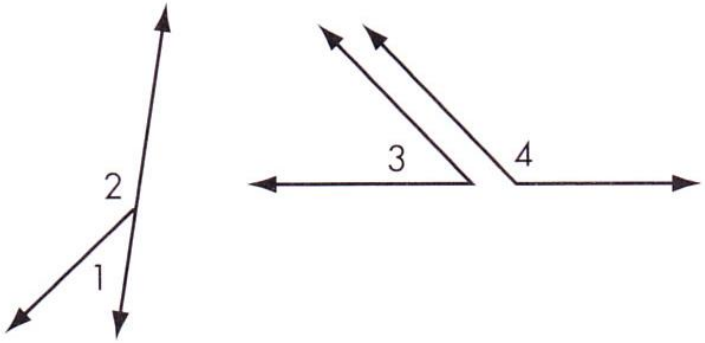


$m\angle 1 + m\angle 2 < 90^\circ$

Note: Sometimes it's convenient to name angles in a diagram with a number.

4. Define *pair of supplementary angles.*

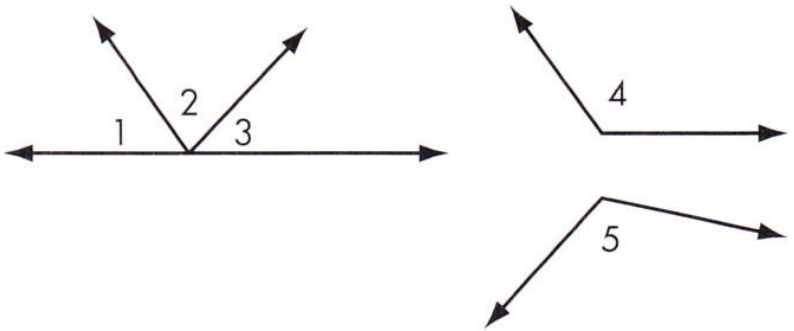
Pairs of supplementary angles



$m\angle 1 + m\angle 2 = 180^\circ$

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

Not pairs of supplementary angles

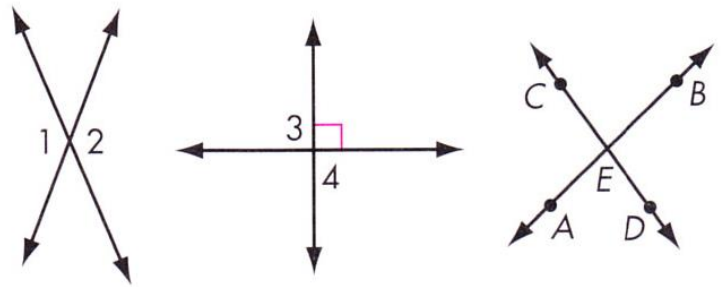


$m\angle 1 + m\angle 2 < 180^\circ$

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

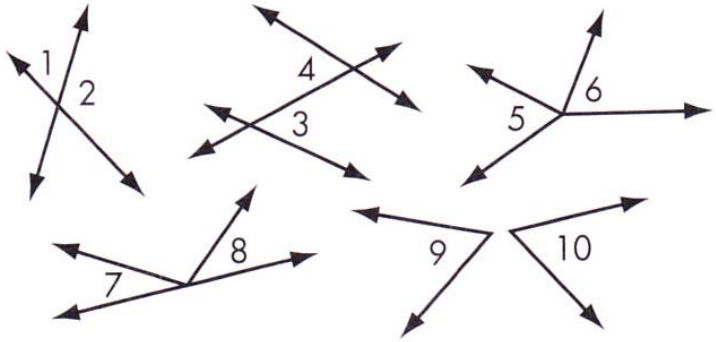
5.* Define *pair of vertical angles.*

Pairs of vertical angles



$\angle 1$ and $\angle 2$ are a pair of vertical angles.
$\angle 3$ and $\angle 4$ are also vertical angles.
$\angle AED$ and $\angle BEC$ are also vertical angles.

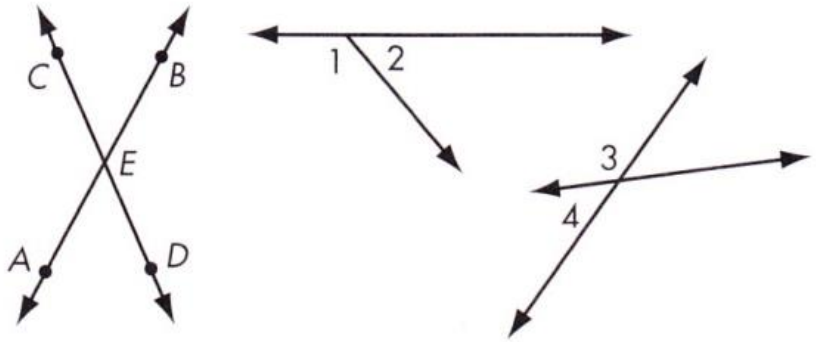
Not pairs of vertical angles



$\angle 1$ and $\angle 2$, $\angle 3$ and $\angle 4$, $\angle 5$ and $\angle 6$, $\angle 7$ and $\angle 8$, and $\angle 9$ and $\angle 10$ are not pairs of vertical angles.

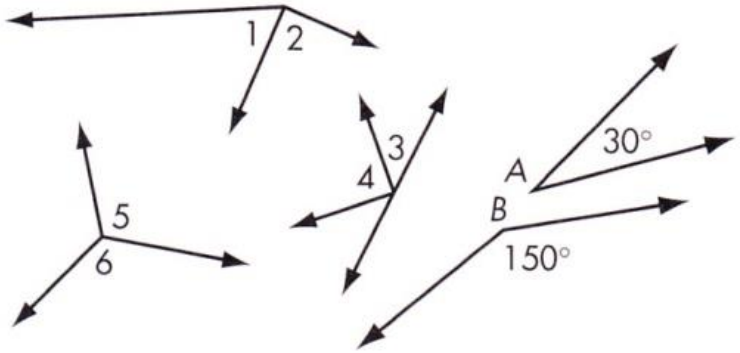
6.* Define *linear pair of angles.*

Linear pairs of angles



$\angle 1$ and $\angle 2$ are a linear pair of angles.
$\angle 3$ and $\angle 4$ are a linear pair of angles.
$\angle AED$ and $\angle AEC$ are a linear pair of angles.

Not linear pairs of angles



$\angle 1$ and $\angle 2$, $\angle 3$ and $\angle 4$, $\angle 5$ and $\angle 6$, and $\angle A$ and $\angle B$ are not linear pairs of angles.