Geometry

1.5 Describe Angle Pair Relationships

# Angle Pairs

## Adjacent Angles

What is it like?

vertex

ray

* Angles that share a \_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_

next

* Are \_\_\_\_\_\_\_\_\_\_\_\_ to each other

inside

* Are not \_\_\_\_\_\_\_\_\_\_\_\_ each other

What are examples?

picture

* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

picture

* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

## Complementary and Supplementary

Complementary Angles

not

Complementary and Supplementary Angles do \_\_\_\_\_\_\_ have to be \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

adjacent

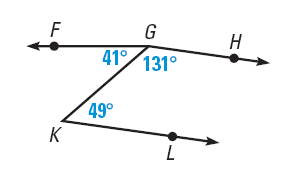
90°

* Two angles whose sum is \_\_\_\_\_\_\_\_\_\_\_

Supplementary Angles

180°

* Two angles whose sum is \_\_\_\_\_\_\_\_\_\_\_

In the figure, name a pair of…

complementary angles,

∠FGK and ∠GKL

supplementary angles,

∠HGK and ∠GKL

adjacent angles.

∠FGK and ∠HGK

Are ∠KGH and ∠LKG adjacent angles? Explain.

No, they do not have a common vertex

Are ∠ FGK and ∠FGH adjacent angles? Explain.

No, they are inside of each other

Given that ∠1 is a complement of ∠2 and m∠2 = 8o, find m∠1.

8 + x = 90

x = 82

Given that ∠3 is a supplement of ∠4 and m∠3 = 117o, find m∠4.

117 + y = 180

y = 63

∠LMN and ∠PQR are complementary angles. Find the measures of the angles if m∠LMN = (4x – 2)° and m∠PQR = (9x + 1)°

(4x – 2) + (9x + 1) = 90 🡪 13x – 1 = 90 🡪 13x = 91 🡪 x = 7

m∠LMN = 4(7) – 2 = 26

m∠PQR = 9(7) + 1 = 64

## Linear Pair

What is it like?

line

* Angles that make a \_\_\_\_\_\_\_\_\_.

Line

* \_\_\_\_\_\_\_\_\_ar pair

Adjacent

* \_\_\_\_\_\_\_\_\_\_\_\_ angles

What are examples?

picture

* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

picture

* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

## Vertical Angles

What is it like?

Two lines cross

* Angles formed when \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

intersection

opposite

* On \_\_\_\_\_\_\_\_\_ sides of the \_\_\_\_\_\_\_\_\_\_\_\_\_

above

* Are not necessarily \_\_\_\_\_\_\_\_\_ each other

What are examples?

congruent

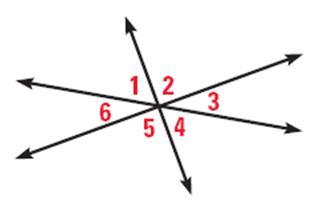
picture

* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

picture

* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Vertical Angles are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Do any of the numbered angles in the diagram below form a linear pair?

No, no 2 of them form straight lines

Which angles are vertical angles?

∠1 and ∠4

∠2 and ∠5

∠3 and ∠6

Two angles form a linear pair. The measure of one angle is 3 times the measure of the other. Find the measure of each angle.

x + 3x = 180 🡪 4x = 180 🡪 x = 45

angles are 45 and 135

# Diagrams

## Things you can assume in diagrams.

coplanar

Points are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Intersections

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

straight

Lines are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Betweenness

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

## Thingsyoucannotassumeindiagrams

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ unless stated

Right Angles

Congruence

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ unless stated

Assignment: 38 #4-28 even, 32-44 even, 54, 58, 60, 62 = 24 total

Extra Credit: 41 #2, 6