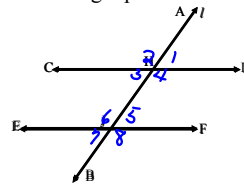


11/28 Aim: Angle pairs
 Get a calculator and a ruler and a piece of patty paper
 Homework worksheet

Nov 6-3:00 PM

Using your straightedge trace the pair of parallel lines and transversal on the patty paper.
 With a partner list all angle pairs that are equal in measure



Nov 6-3:11 PM

Handwritten notes and diagram:

$\angle 1 \cong \angle 3$
 $\angle 6 \cong \angle 8$
 $\angle 5 \cong \angle 7$
 $\angle 2 \cong \angle 4$
 Vertical $\angle 5$
 $\angle 1 + \angle 2 = 180^\circ$
 $\angle 4 \cong \angle 6$
 $\angle 3 \cong \angle 5$
 alt. int.
 $\angle 5 + \angle 8 = 180^\circ$
 alt. ext. $\angle 1 \cong \angle 7$
 $\angle 2 \cong \angle 8$
 Corresp. $\angle 1 \cong \angle 5$
 $\angle 2 \cong \angle 6$
 $\angle 3 \cong \angle 7$
 $\angle 4 \cong \angle 8$

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Adjacent angles

Two angles with a common side add to 180°

Name a pair of angles satisfy this condition?
 $\angle 1 \text{ \& } \angle 2$ $\angle 2, \text{ \& } \angle 3$ $\angle 7 \text{ \& } \angle 8$

Nov 17-10:06 AM

Angle pairs

Vocabulary
 Transversal
 The line that intersects 2 || lines

Interior angles
 Angles between 2 || lines

Exterior angles
 Angles on the outside of the || lines

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Linear pair

two angles that form supplementary angles (add to 180°)

Name a pair of angles satisfy this condition?
 $\angle 6 \text{ \& } \angle 5$, $\angle 1 \text{ \& } \angle 2$

Nov 17-10:07 AM

Vertical angles

- angles formed by intersecting lines
- They are \cong

BOWTIE

Name a pair of angles satisfy this condition?

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Corresponding angles

Two angles on the same side of the transversal, one inside and one outside

They are \cong

Name a pair of angles satisfy this condition?
 $\angle 1 \cong \angle 5$, $\angle 2 \cong \angle 6$

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Alternate interior

Two angles on the opposite side of the transversal and inside.

Z test They are \cong

Name a pair of angles satisfy this condition?
 $\angle 3 \cong \angle 5$ $\angle 4 \cong \angle 6$

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Alternate exterior

Two angles on the outside on the opp. side of the transversal

They are \cong

Name a pair of angles satisfy this condition?
 $\angle 1 \cong \angle 7$ $\angle 2 \cong \angle 8$

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Interior angles on the same side of the transversal

Two angles that on the interior and on the same side of the transversal

* They are Supplementary (add to 180°)

Name a pair of angles satisfy this condition?
 $\angle 4 \cong \angle 5$
 $\angle 3 \cong \angle 6$

Nov 6-3:24 PM

Supplementary angles

Angles that add 180°

Name a pair of angles satisfy this condition?

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complementary angles

Angles that add to 90°

Name a pair of angles satisfy this condition?

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Determine the measure of the missing angle in each diagram.

A.

Vertical angles are \cong

Nov 13-7:39 AM

Determine the measure of the missing angle in each diagram.

B.

adjacent angles
Linear Pair \therefore
Supplementary

$$\begin{array}{r} 180 \\ - 121 \\ \hline 59 \end{array}$$

Nov 13-7:39 AM

Determine the measure of the missing angle in each diagram.

c.

-angles around a point add to 360°

$$\begin{array}{r} z + 82 + 172 = 360 \\ z + 254 = 360 \\ - 254 \quad - 254 \\ \hline z = 106 \end{array}$$

Nov 13-7:40 AM

In the figure, line segment AD is drawn. Find $m\angle DCE$.

$$\begin{array}{r} 72 + 90 + x = 180 \\ 162 + x = 180 \\ - 162 \quad - 162 \\ \hline x = 18 \end{array}$$

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The total measure of adjacent angles around a point is 360°.
Find the measure of $m\angle HKI$

$$\begin{array}{r} 133 + 147 + x = 360 \\ 280 + x = 360 \\ - 280 \quad - 280 \\ \hline x = 80 \end{array}$$

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Vertical angle have equal measure. Two angles are vertical if their sides form opposite rays. Find $m\angle TRV$.

52°

Nov 6-3:50 PM

Find the measures of each labeled angle. Give a reason for your solution.

Angle	Angle measure	Reason
$\angle a$	35	Supp. b/c they are linear pairs
$\angle b$	140	Supp. b/c they are linear pairs
$\angle c$	40	Vertical \angle s are \cong
$\angle d$	140	Vertical \angle s are \cong
$\angle e$	238	Angles around a point add to 360

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In the figures below, AB, CD, and EF are straight line segments. Find the measure of each marked angle or find the unknown numbers labeled by the variables in the diagrams. Give the reasons for your calculations. Show all the steps to your solution.

1.

$\angle a = \underline{\hspace{2cm}}$

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2.

$\angle c = \underline{\hspace{2cm}}$

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$\angle c = \underline{\hspace{2cm}}$

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4.

$\angle d = \underline{\hspace{2cm}}$

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5.

$\angle g =$ _____

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For Problems 6–12, find the values of x and y . Show all work.

6.

$x =$ _____

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7.

$y =$ _____ $x =$ _____

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8.

$x =$ _____

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9.

$x =$ _____

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10.

$x =$ _____ $y =$ _____

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11.

$x = \underline{\hspace{2cm}}$

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12.

$x = \underline{\hspace{2cm}}$ $y = \underline{\hspace{2cm}}$

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