

CUT & GLUE SORT

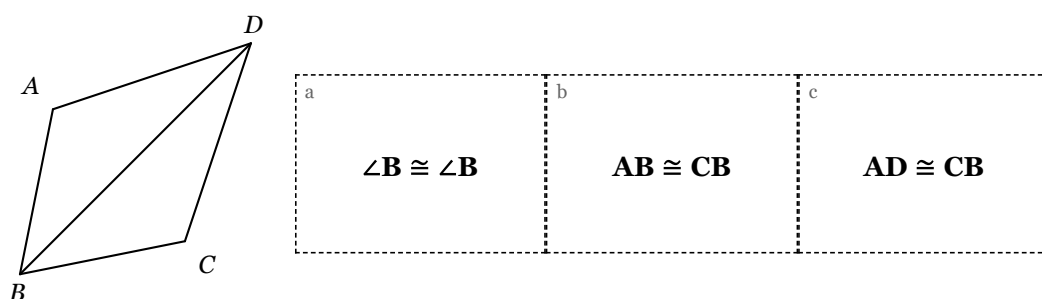


CORRESPONDING PARTS OF CONGRUENT FIGURES

Corresponding Parts of Congruent Figures

Partners, not partners, or no angle at all · one drawing · 12 pieces

FREE



Row 1. Correct: the statement makes these two parts partners.

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Row 2. Wrong: the statement does not make these two parts partners.

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Row 3. Not named: a one-letter angle name, where more than one angle has that corner.

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Cut & Glue Sort — how to run it

25 minutes, with cutting

1. **Give each student pages 3 and 4**, scissors and glue.
2. **Say this once:** *“First check each angle name. Does it name one angle in the drawing? Then read the statement. Does it make the two parts partners?”*
3. **Collect the sheets.** Every row holds 4 pieces. Nothing else is needed.

Rows	page 3, one per student.
Pieces	page 4, one per student. The students cut.
Answers	page 5 — yours.

Every piece is about one drawing: a four-sided figure cut by the diagonal BD into two triangles, with $\triangle ABD \cong \triangle CBD$. Nothing is marked on it. Three segments meet at B, so three angles have their corner at B. The same is true at D. A one-letter name such as $\angle B$ does not say which of the three is meant, so those pieces go in row 3. A student who learns now to name such an angle with three letters makes fewer mistakes in proofs later.

A one-letter name is not always wrong. Only two segments meet at A and at C, so $\angle A$ and $\angle C$ are angles. Two pieces in row 1 and two in row 2 use them. A student who puts every one-letter name in row 3 gets those four wrong.

The two parts on each row 2 piece also have different sizes in the drawing.



This is the free lesson this activity came from. The worksheet, the full answers and the lesson plan are on it.

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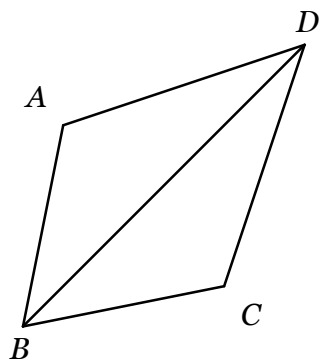
Cut & Glue Sort — partners or not?

Corresponding parts

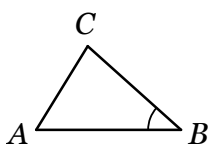
Name _____

Period _____

Date _____



In this drawing, $\triangle ABD \cong \triangle CBD$. Each piece names two parts. First, check each angle name. Does it name only one angle in the drawing? If not, the piece goes in row 3. If yes, read the statement. Does it make the two parts partners? Glue each piece in its row. Each row gets the same number of pieces.



The stack test. Write the two names one above the other.

$\triangle$	A	B	C
$\triangle$	D	E	F

Letters in the same column are partners. A goes with D. AB goes with DE.

An angle has its corner in the middle: $\angle ABC$ is the angle at B. It goes with $\angle DEF$.

Row 1. Correct: the statement makes these two parts partners.

Row 2. Wrong: the statement does not make these two parts partners.

Row 3. Not named: a one-letter angle name, where more than one angle has that corner.

Cut & Glue Sort — the pieces

Cut along the dashed lines

Cut out the 12 pieces. Glue each one in its row on the other sheet.

a $\angle B \cong \angle B$	b $AB \cong CB$	c $AD \cong CB$	d $\angle A \cong \angle C$
e $m\angle CDB = m\angle D$	f $\angle A \cong \angle CDB$	g $\angle ABD \cong \angle CBD$	h $\angle ABD \cong \angle B$
i $AB \cong CD$	j $m\angle C = m\angle BAD$	k $\angle D \cong \angle D$	l $\angle C \cong \angle ABD$



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Cut & Glue Sort — answers

For the teacher

1 **Correct: the statement makes these two parts partners.**

b $AB \cong CB$. The statement pairs A with C and B with B, so AB goes with CB.

d $\angle A \cong \angle C$. Only two segments meet at A and at C, and the statement pairs A with C.

g $\angle ABD \cong \angle CBD$. The statement pairs A with C, B with B and D with D, so $\angle ABD$ goes with $\angle CBD$.

j $m\angle C = m\angle BAD$. $\angle BAD$ is the angle at A, and the statement pairs A with C.

2 **Wrong: the statement does not make these two parts partners.**

c $AD \cong CB$. The statement pairs A with C and D with D, so AD goes with CD, not CB.

f $\angle A \cong \angle CDB$. The partner of $\angle A$ is $\angle C$. The partner of $\angle CDB$ is $\angle ADB$.

i $AB \cong CD$. AB goes with CB, and CD goes with AD. So AB and CD are not partners.

l $\angle C \cong \angle ABD$. The partner of $\angle C$ is $\angle A$. The partner of $\angle ABD$ is $\angle CBD$.

3 **Not named: a one-letter angle name, where more than one angle has that corner.**

a $\angle B \cong \angle B$. Three segments meet at B, so $\angle B$ could be $\angle ABD$, $\angle CBD$ or $\angle ABC$.

e $m\angle CDB = m\angle D$. Three segments meet at D, so $\angle D$ does not name one angle.

h $\angle ABD \cong \angle B$. Three segments meet at B, so $\angle B$ does not name one angle.

k $\angle D \cong \angle D$. Three segments meet at D, so $\angle D$ could be $\angle ADB$, $\angle CDB$ or $\angle ADC$.

Every row holds four pieces. The statement $\triangle ABD \cong \triangle CBD$ pairs the letters in order: A with C, B with B, and D with D.

Guessing does not work. Every simple guessing rule, such as putting every one-letter angle name in row 3, places at most six of the twelve pieces correctly.