

INDEPENDENT VARIABLE

IDV WORKSHEETS



CORRESPONDING PROPERTIES

MATCHING POINTS, SIDES & ANGLES | PROVING CONGRUENCE

ANIMATED
POWERPOINT:
DOES THE WORK
FOR YOU!

FULL ANSWER
KEYS
INCLUDED

16 EXAMPLE
PROBLEMS
5 PRACTICE
SHEETS

MATCHING
PRACTICE +
FIND THE
MISTAKE

MORE PRACTICE. LESS PREP. BETTER OUTCOMES.

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Inside the Animated Lesson

INDEPENDENT VARIABLE

GRADE 8 • GEOMETRY

CORRESPONDING PROPERTIES

MATCHING POINTS, SIDES & ANGLES | PROVING CONGRUENCE

Animated PowerPoint lesson

Prove it, label it, match it!

Practice sheets • full answer keys

MORE PRACTICE. LESS PREP. BETTER OUTCOMES.

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NOTES

What Does Corresponding Mean?

Corresponding: properties in the same spot on two congruent figures.

POINTS

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

SIDES

$AB \leftrightarrow DE$ $BC \leftrightarrow EF$ $CA \leftrightarrow FD$

ANGLES

$\angle A \leftrightarrow \angle D$ $\angle B \leftrightarrow \angle E$ $\angle C \leftrightarrow \angle F$

SO...

$AB = DE$, $\angle A = \angle D$, and so on

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FOLLOW ALONG • FOLLOW-ALONG: WHICH PART MATCHES?, BOX 1

FOLLOW ALONG

1. Triangle ABC was translated. Which point in the image corresponds to point A?

Answer: Point Q

The move matched $A \rightarrow Q$ $B \rightarrow P$ $C \rightarrow X$

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LESSON PROBLEM 4 • PROVE IT & LABEL IT SHEET

Prove They're Congruent, Then Label the Matches

a) Describe the moves that take A onto A'. b) Label the corresponding measures on A'.

Step 2: Rotate 90° clockwise about point P → A lands exactly on A'. Congruent!

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LESSON PROBLEM 6 • PROVE IT & LABEL IT SHEET

Prove They're Congruent, Then Label the Matches

a) Describe the moves that take A onto A'. b) Label the corresponding measures on A'.

Step 2: Rotate 110° clockwise about point P → A lands exactly on A'. Congruent!

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LESSON PROBLEM 8 • PARALLEL LINES SHEET

Make Parallel Lines with a Rotation

Perform a rotation of segment AB to make a pair of parallel lines.

WHY IT WORKS

A half turn about P flips the order (B' is on the left), and $A'B' \parallel AB$.

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LESSON PROBLEM 10 • PARALLEL LINES SHEET

Predict, Then Rotate

Rotate triangle A about point z. Predict what it will look like after each turn, then perform each one.

- 90° clockwise
- 180° clockwise
- 270° clockwise

What is your prediction?

THE FOUR COPIES MAKE A SQUARE

Each quarter turn puts the triangle's right angle on the next corner. All four triangles are congruent.

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KEY IDEA

Rigid Moves Keep Every Measure

If a sequence of rigid moves takes one figure onto another, the figures are congruent, and...

Points land on corresponding points

Sides map to corresponding sides of the SAME length

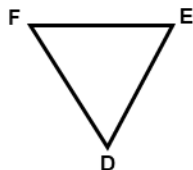
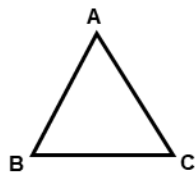
Angles map to corresponding angles of the SAME measure

Parallel lines stay parallel

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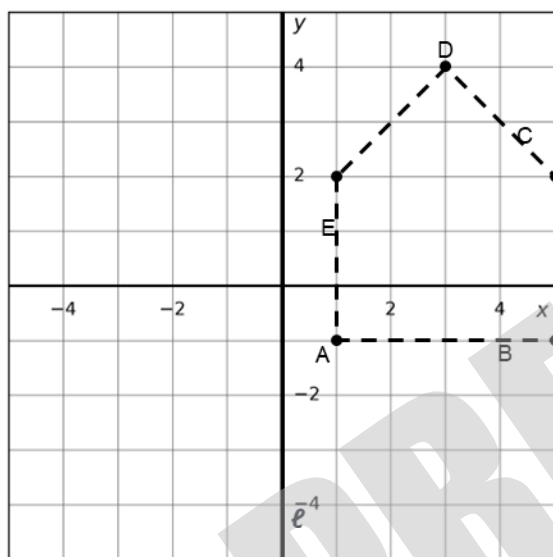
Directions: Corresponding parts are in the same spot on two congruent figures.

What does corresponding mean?



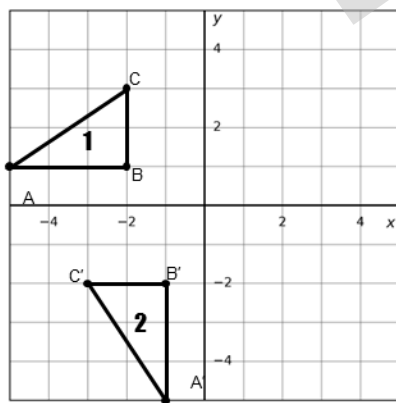
$A \leftrightarrow$ _____ $B \leftrightarrow$ _____ $C \leftrightarrow$ _____
 $AB \leftrightarrow$ _____ $BC \leftrightarrow$ _____ $CA \leftrightarrow$ _____
 $\angle A \leftrightarrow$ _____ $\angle B \leftrightarrow$ _____ $\angle C \leftrightarrow$ _____

1. Reflect pentagon ABCDE across line ℓ (the y-axis). Write each side length and angle measure on BOTH figures. What do you notice?

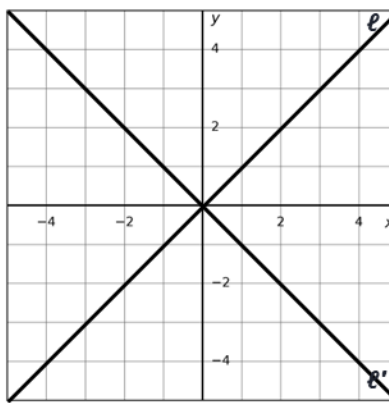


What do you notice?

2. Describe a rigid transformation that takes triangle 1 to triangle 2.

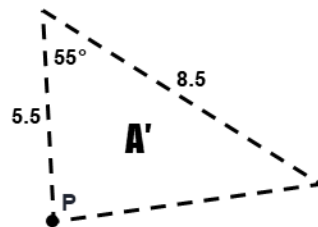
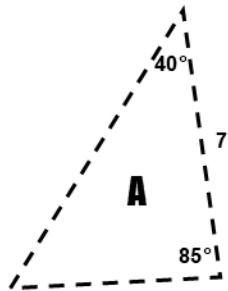


3. Describe a translation, rotation, or reflection that takes line ℓ to line ℓ' .

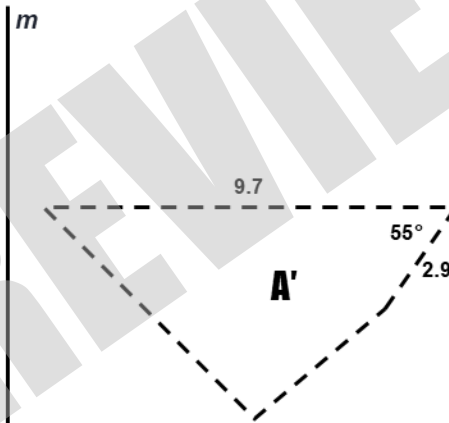
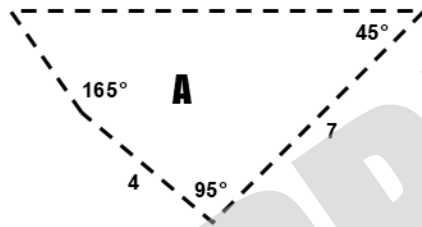


Directions: a) Describe the moves that take A onto A'. b) Label every corresponding side length and angle measure on A'.

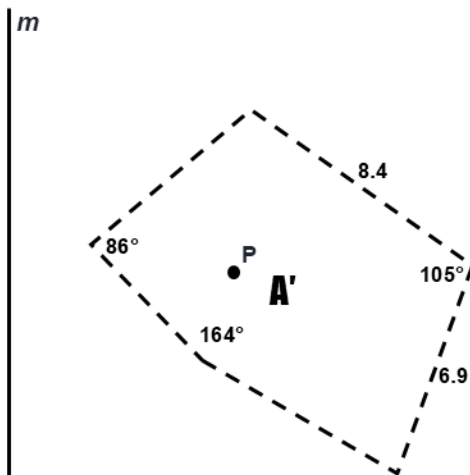
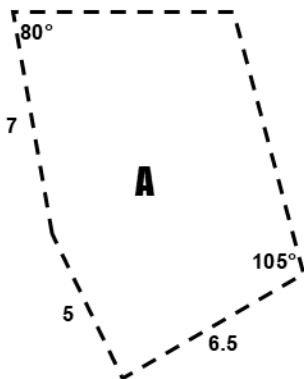
4.

**Moves:**

5.

**Moves:**

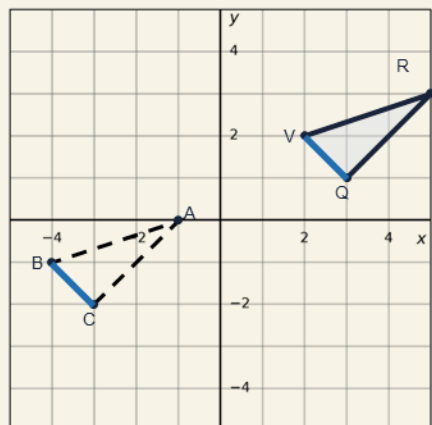
6.

**Moves:**

Directions: Study the two examples. Then find the corresponding part of the image for each problem.

SHEET 2 OF 4 • SIDES

Example 1: Triangle ABC was translated. Which side in the image corresponds to side BC?



Follow the move

$A \rightarrow R$

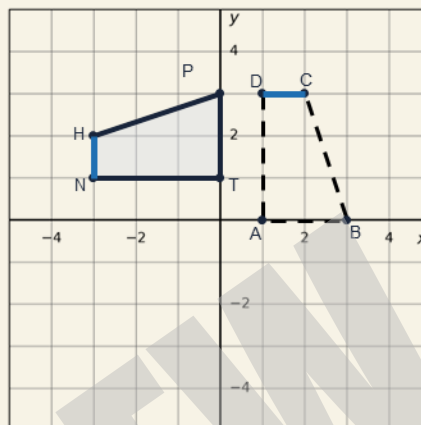
$B \rightarrow V$

$C \rightarrow Q$

Answer

Side VQ

Example 2: Quadrilateral ABCD was rotated. Which side in the image corresponds to side CD?



Follow the move

$A \rightarrow T$

$B \rightarrow P$

$C \rightarrow H$

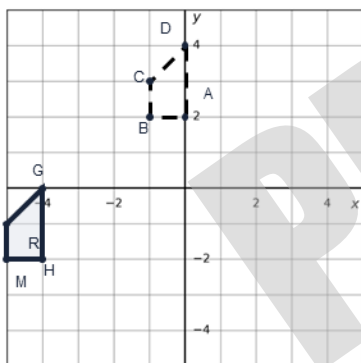
$D \rightarrow N$

Answer

Side HN

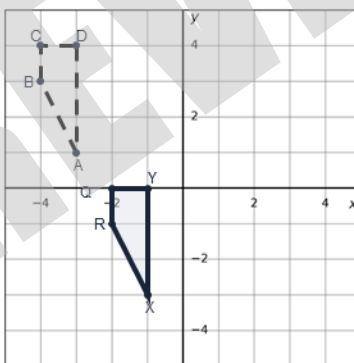
Your turn

1. Quadrilateral ABCD was translated. Which side in the image corresponds to side CD?



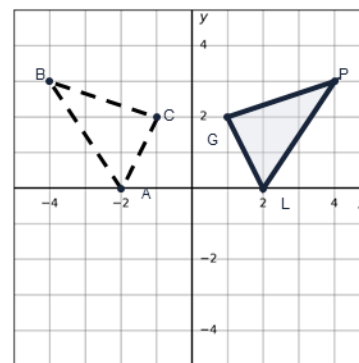
Answer: _____

2. Quadrilateral ABCD was translated. Which side in the image corresponds to side AB?



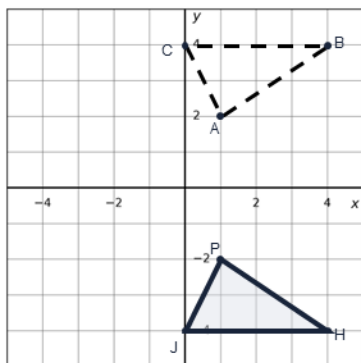
Answer: _____

3. Triangle ABC was reflected. Which side in the image corresponds to side CA?



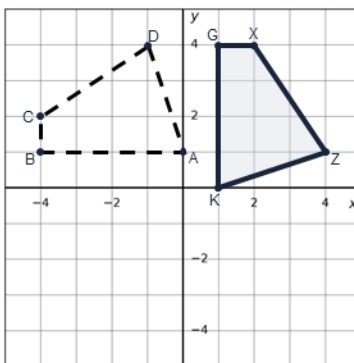
Answer: _____

4. Triangle ABC was reflected. Which side in the image corresponds to side CA?



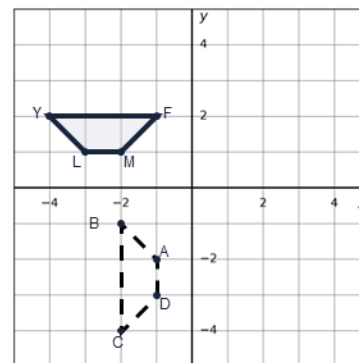
Answer: _____

5. Quadrilateral ABCD was rotated. Which side in the image corresponds to side AB?



Answer: _____

6. Quadrilateral ABCD was rotated. Which side in the image corresponds to side AB?



Answer: _____