

Learning Targets



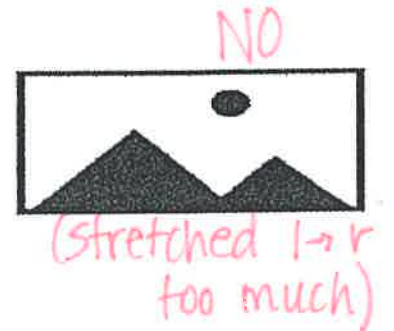
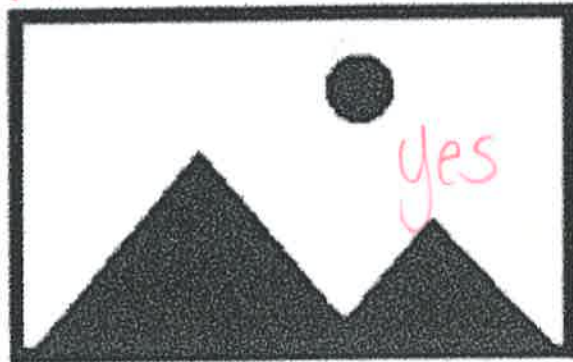
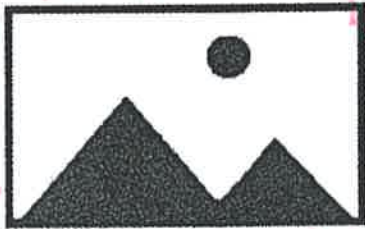
- I can identify corresponding angles and sides
- I can state the properties of similar figures
- I can find the ratio of sides lengths in similar figures
- I can find the missing measures of congruent figures

Word	Notation	Diagram
Congruent Same size and shape	$\triangle XYZ \cong \triangle QRS$	
Similar Same shape but different size	$\triangle NMO \sim \triangle JKL$	

Similar Figures

Which ones are similar?

Figure A



(congruent)



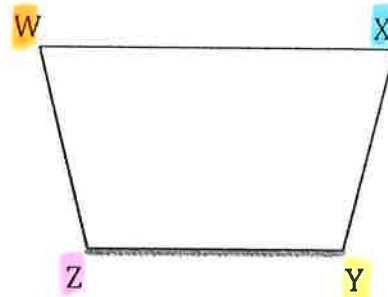
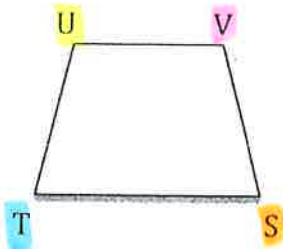
stretched up + down too much

Properties of Similar Figures

1. Corresponding angles of similar figures are congruent.
2. The ratios of the lengths of the corresponding sides of similar figures are equal.

Identifying Corresponding Part of Similar Figures

$$STUV \sim WXYZ$$



\overline{ST} and \overline{WX}
 \overline{TU} and \overline{XY}
 \overline{UV} and \overline{YZ}
 \overline{VS} and \overline{ZW}

$\angle S$ and $\angle W$

$\angle T$ and $\angle X$

$\angle U$ and $\angle Y$

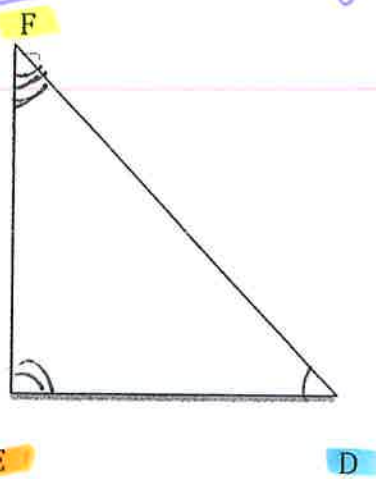
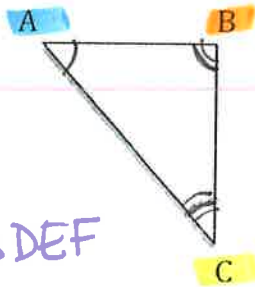
$\angle V$ and $\angle Z$

Corresponding Angles:

Angles that have the same relative position in two similar figures.
 (They have the same measure)

Corresponding Sides:

Sides that have the same relative position in two similar figures.
 (Ratios of the side lengths are the same)



$$\triangle ABC \sim \triangle DEF$$

Corresponding Angles:

$\angle B$ and $\angle E$

$\angle C$ and $\angle F$

Corresponding Sides:

$\angle A$ and $\angle D$

\overline{CB} and \overline{FE}

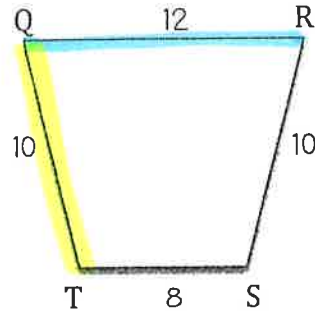
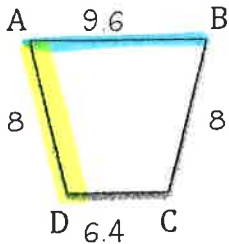
\overline{BA} and \overline{ED}

\overline{AC} and \overline{DF}

Ratios of Corresponding Sides

Write a ratio comparing the lengths of a pair of corresponding sides. **Must be a reduced fraction.*

1. $ABCD \sim QRST$ *similar*



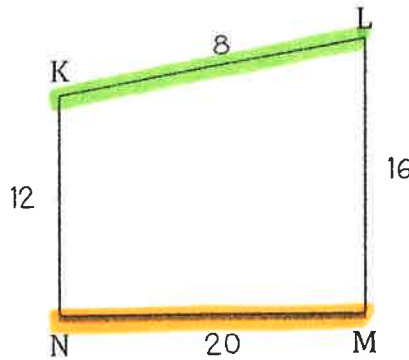
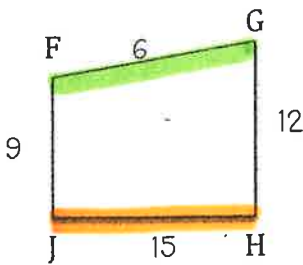
$$\frac{AB}{QR} = \frac{9.6}{12} = \frac{4}{5}$$

(OR)

$$\frac{AD}{QT} = \frac{8}{10} = \frac{4}{5}$$

Same ratio

2. $FGHJ \sim KLMN$ *similar*



$$\frac{FG}{KL} = \frac{6}{8} = \frac{3}{4}$$

(OR)

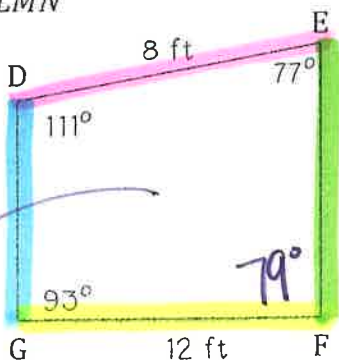
$$\frac{JH}{NM} = \frac{15}{20} = \frac{3}{4}$$

Same ratio

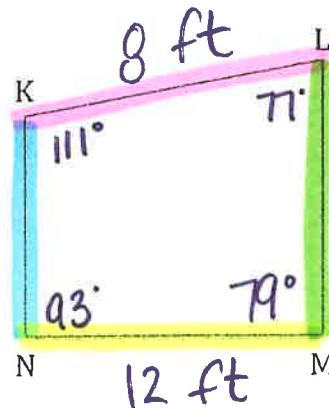
Measures of Congruent Figures

Find the missing measurements.

1. $DEFG \cong KLMN$ *congruent*



360° total



Corresponding angles:

$\angle D$ and $\angle K$ $\angle F$ and $\angle M$
 $\angle E$ and $\angle L$ $\angle G$ and $\angle N$

Corresponding sides:

\overline{EF} and \overline{LM} \overline{GD} and \overline{NK}
 \overline{FG} and \overline{MN} \overline{DE} and \overline{KL}

