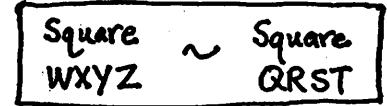


CHAPTER 12: Similar Polygons
Ratios of SIDES, PERIMETERS, & AREAS

What is the **ratio of sides** for the larger polygon to the smaller polygon? _____ **Reduced: Sides Ratio** _____



#2) What is the **actual ratio of perimeters** for the larger polygon to the smaller polygon? _____

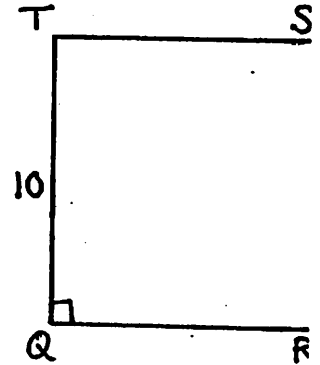
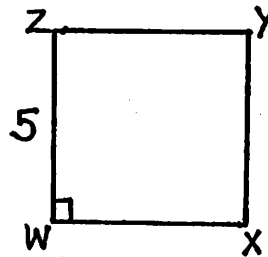
#2a) **Reduce** the perimeter ratio: _____

#3) **Calculate** the areas of both polygons:
 larger polygon _____
 smaller polygon _____

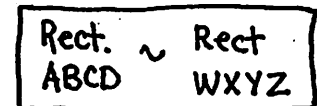
#4) Set up the ratio of areas (large to small): _____

#4a) **Reduce** the area ratio: _____

#5) Compare the reduced forms of the ratios **mathematically**: (compare the quantities)



#1) What is the **ratio of sides** for the larger polygon to the smaller polygon? _____ **Reduced: Sides Ratio** _____



#2) What is the **actual ratio of perimeters** for the larger polygon to the smaller polygon? _____

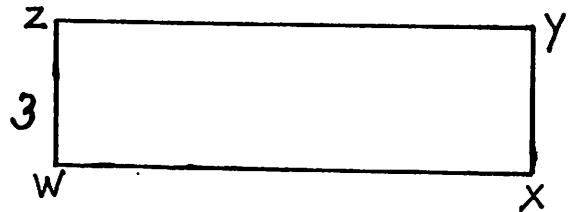
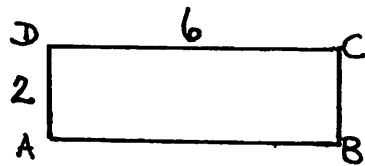
#2a) **Reduce** the perimeter ratio: _____

#3) **Calculate** the areas of both polygons:
 larger polygon _____
 smaller polygon _____

#4) Set up the ratio of areas (large to small): _____

#4a) **Reduce** the area ratio: _____

#5) Compare the reduced forms of the ratios **mathematically**: (compare the quantities)



CHAPTER 12: Similar Polygons
Ratios of SIDES, PERIMETERS, & AREAS

#1) What is the **ratio of sides** for the larger polygon to the smaller polygon? _____ **Reduced: Sides Ratio** _____

$\triangle ABC \sim \triangle A'B'C'$

#2) What is the **actual ratio of perimeters** for the larger polygon to the smaller polygon? _____

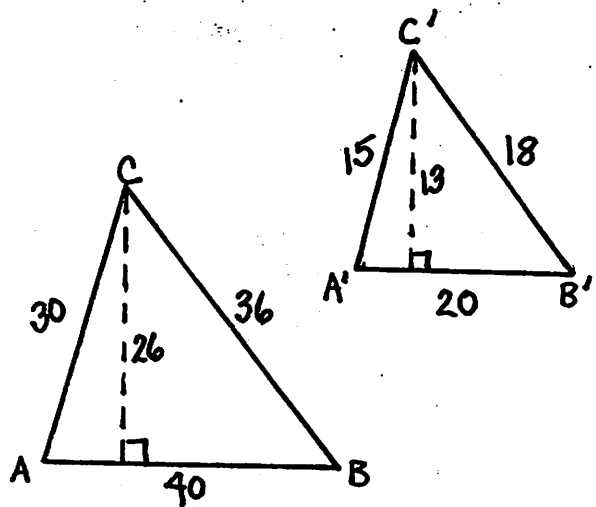
#2a) **Reduce** the perimeter ratio: _____

#3) **Calculate** the areas of both polygons:
 larger polygon _____
 smaller polygon _____

#4) Set up the ratio of areas (large to small): _____

#4a) **Reduce** the area ratio: _____

#5) Compare the reduced forms of the ratios **mathematically**: (compare the quantities)



#1) What is the **ratio of sides** for the larger polygon to the smaller polygon? _____ **Reduced: Sides Ratio** _____

$ABCD \sim EFGH$

#2) What is the **actual ratio of perimeters** for the larger polygon to the smaller polygon? _____

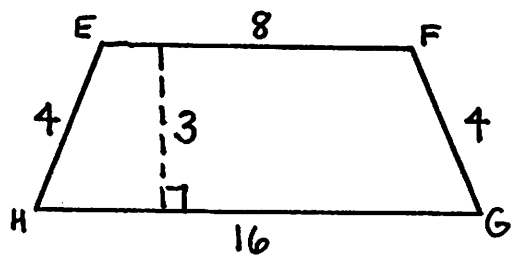
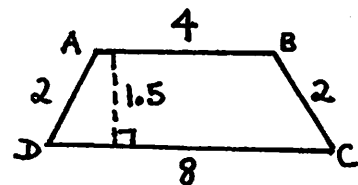
#2a) **Reduce** the perimeter ratio: _____

#3) **Calculate** the areas of both polygons:
 larger polygon _____
 smaller polygon _____

#4) Set up the ratio of areas (large to small): _____

#4a) **Reduce** the area ratio: _____

#5) Compare the reduced forms of the ratios **mathematically**: (compare the quantities)



CHAPTER 12: Similar Polygons
Ratios of SIDES, PERIMETERS, & AREAS

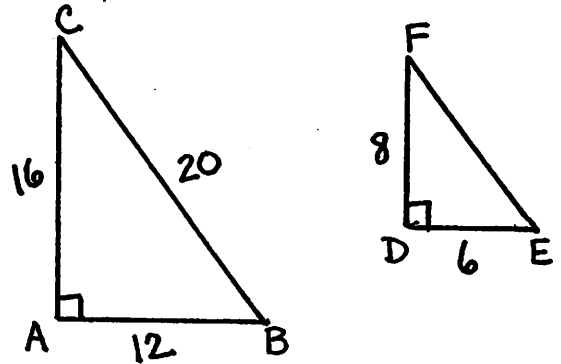
What is the **ratio of sides** for the larger polygon to the smaller polygon? _____ Reduced: Sides Ratio _____

$\triangle ABC \sim \triangle DEF$

#2) What is the *actual* ratio of perimeters for the larger polygon to the smaller polygon? _____

#2a) Reduce the perimeter ratio: _____

#3) Calculate the areas of both polygons:
 larger polygon _____
 smaller polygon _____



#4) Set up the ratio of areas (large to small): _____

#4a) Reduce the area ratio: _____

#5) Compare the reduced forms of the ratios **mathematically**: (compare the quantities)

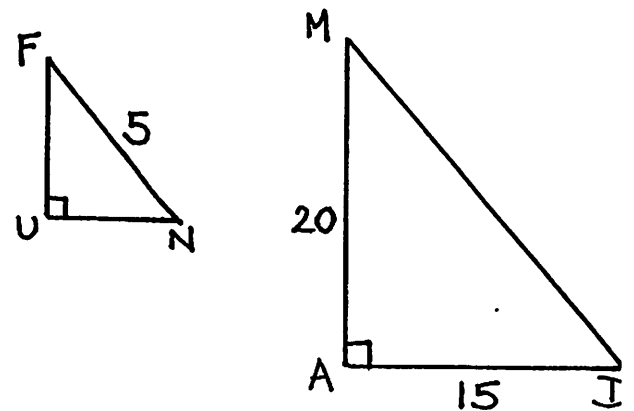
What is the **ratio of sides** for the larger polygon to the smaller polygon? _____ Reduced: Sides Ratio _____

$\triangle FUN \sim \triangle MAD$

#2) What is the *actual* ratio of perimeters for the larger polygon to the smaller polygon? _____

#2a) Reduce the perimeter ratio: _____

#3) Calculate the areas of both polygons:
 larger polygon _____
 smaller polygon _____



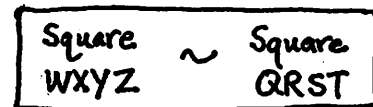
#4) Set up the ratio of areas (large to small): _____

#4a) Reduce the area ratio: _____

#5) Compare the reduced forms of the ratios **mathematically**: (compare the quantities)

CHAPTER 12: Similar Polygons
Ratios of SIDES, PERIMETERS, & AREAS

What is the ratio of sides for the larger polygon to the smaller polygon? $\frac{10}{5}$ Reduced: Sides Ratio $\frac{2}{1}$



#2) What is the *actual* ratio of perimeters for the larger polygon to the smaller polygon? $\frac{40}{20}$

#2a) Reduce the perimeter ratio: $\frac{2}{1}$

#3) Calculate the areas of both polygons:

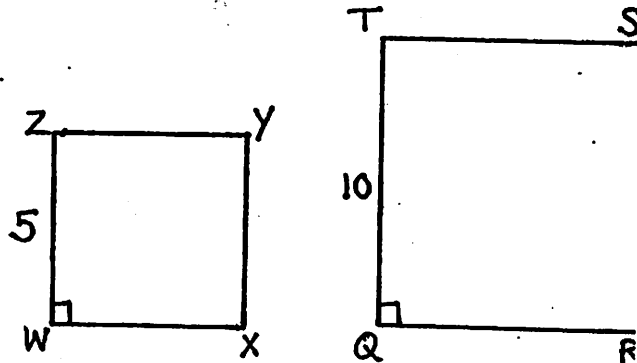
larger polygon 100
 smaller polygon 25

#4) Set up the ratio of areas (large to small): $\frac{100}{25}$

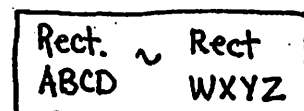
#4a) Reduce the area ratio: $\frac{4}{1}$

#5) Compare the reduced forms of the ratios mathematically: (compare the quantities)

Ratio of Perimeter = Ratio of Sides
Ratio of Area = (Ratio of Sides)²



#1) What is the ratio of sides for the larger polygon to the smaller polygon? $\frac{3}{2}$ Reduced: Sides Ratio $\frac{3}{2}$



#2) What is the *actual* ratio of perimeters for the larger polygon to the smaller polygon? $\frac{24}{16}$

#2a) Reduce the perimeter ratio: $\frac{3}{2}$

#3) Calculate the areas of both polygons:

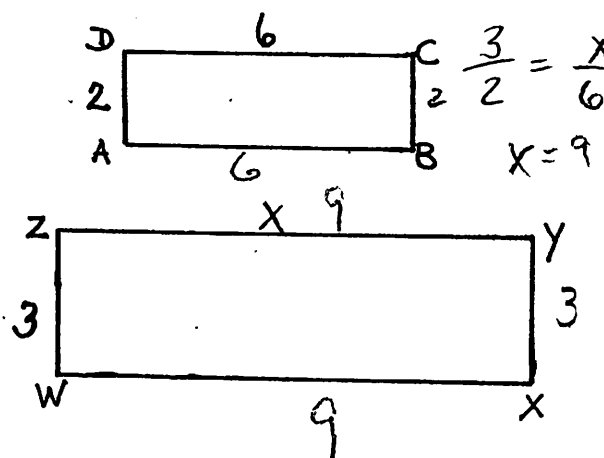
larger polygon 27
 smaller polygon 12

#4) Set up the ratio of areas (large to small): $\frac{27}{12}$

#4a) Reduce the area ratio: $\frac{9}{4}$

#5) Compare the reduced forms of the ratios mathematically: (compare the quantities)

Ratio of Perimeter = Ratio of Sides
Ratio of Area = (Ratio of Sides)²



CHAPTER 12: Similar Polygons
Ratios of SIDES, PERIMETERS, & AREAS

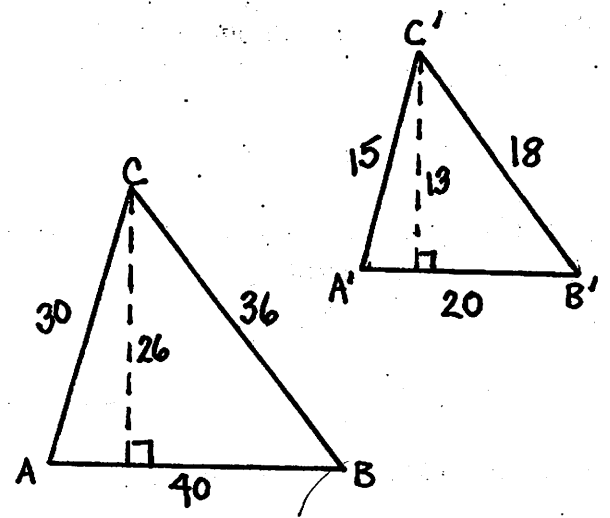
#1) What is the ratio of sides for the larger polygon to the smaller polygon? $\frac{30}{15}$ Reduced: Sides Ratio $\frac{2}{1}$

$\triangle ABC \sim \triangle A'B'C'$

#2) What is the actual ratio of perimeters for the larger polygon to the smaller polygon? $\frac{106}{53}$

#2a) Reduce the perimeter ratio: $\frac{2}{1}$

#3) Calculate the areas of both polygons:
 larger polygon $\frac{1}{2}bh = \frac{1}{2}(40)(126) = 2520$
 smaller polygon $\frac{1}{2}(20)(13) = 130$



#4) Set up the ratio of areas (large to small): $\frac{2520}{130}$

#4a) Reduce the area ratio: $\frac{4}{1}$

#5) Compare the reduced forms of the ratios **mathematically**: (compare the quantities)

Ratio of Perimeters = Ratio of Sides
Ratio of Areas = (Ratio of Sides)²

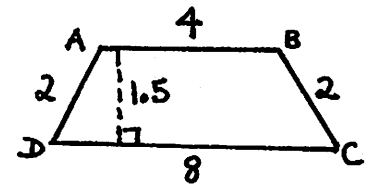
#1) What is the ratio of sides for the larger polygon to the smaller polygon? $\frac{4}{2}$ Reduced: Sides Ratio $\frac{2}{1}$

$ABCD \sim EFGH$

#2) What is the actual ratio of perimeters for the larger polygon to the smaller polygon? $\frac{32}{16}$

#2a) Reduce the perimeter ratio: $\frac{2}{1}$

#3) Calculate the areas of both polygons:
 larger polygon $\frac{1}{2}(4+8)(1.5) = 36$
 smaller polygon $\frac{1}{2}(2+4)(3) = 9$



#4) Set up the ratio of areas (large to small): $\frac{36}{9}$

#4a) Reduce the area ratio: $\frac{4}{1}$

#5) Compare the reduced forms of the ratios **mathematically**: (compare the quantities)

Ratio of Perimeters = Ratio of Sides
Ratio of Areas = (Ratio of Sides)²

CHAPTER 12: Similar Polygons
Ratios of SIDES, PERIMETERS, & AREAS

What is the **ratio of sides** for the 16
 larger polygon to the smaller polygon? 8 Reduced: 2
 Sides Ratio 1

$\triangle ABC \sim \triangle DEF$

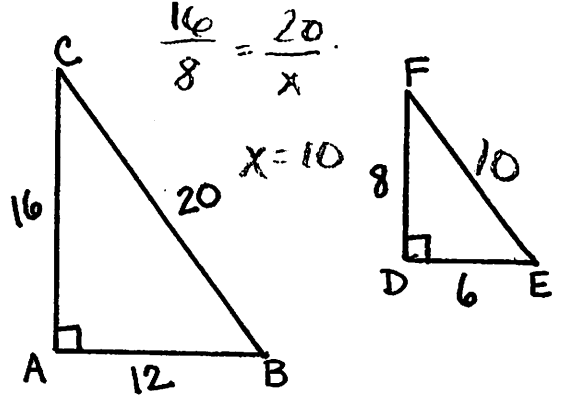
#2) What is the **actual ratio of perimeters**
 for the larger polygon to the smaller polygon? 48
24

#2a) Reduce the perimeter ratio: 2
1

#3) Calculate the areas of both polygons:
 larger polygon 96
 smaller polygon 24

#4) Set up the ratio of areas (large to small): 96
24

#4a) Reduce the area ratio: 4
1



#5) Compare the reduced forms of the ratios **mathematically**: (compare the quantities)

Ratio of Perimeters = Ratio of sides
Ratio of Areas = (Ratio of sides)²

#1) What is the **ratio of sides** for the 15
 larger polygon to the smaller polygon? 3 Reduced: 5
 Sides Ratio 1

$\triangle FUN \sim \triangle MAD$

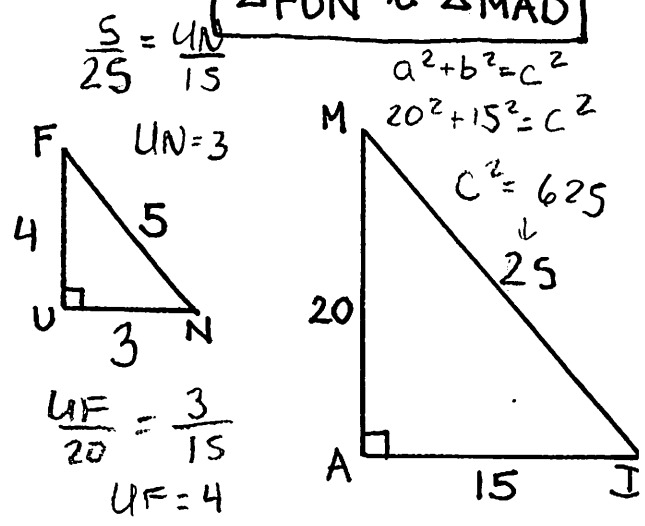
#2) What is the **actual ratio of perimeters**
 for the larger polygon to the smaller polygon? 60
12

#2a) Reduce the perimeter ratio: 5
1

#3) Calculate the areas of both polygons:
 larger polygon 150
 smaller polygon 6

#4) Set up the ratio of areas (large to small): 150
6

#4a) Reduce the area ratio: 25
1



#5) Compare the reduced forms of the ratios **mathematically**: (compare the quantities)

Ratio of Perimeters = Ratio of Sides
Ratio of Areas = (Ratio of Sides)²