Cornell Notes Main Ideas/Questions	Name:_____ Date: _____ 7.2 Title of Notes: **Similar Polygons**

Similar Polygons' - Polygons that have the same shape, but different size.

Corresponding – Having the same position

Two polygons are similar if:

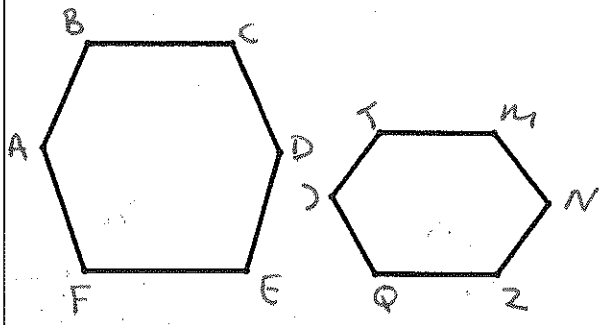
1. corresponding angles are congruent **AND**
2. the lengths of corresponding sides are in proportion, called the **scale factor**

When two polygons are similar, we can write a similarity statement using the symbol "~".

I. Each figure is similar complete the similarity statement and each list of congruent ratios

Similarity Statement

ABCDEF ~ JTMNZQ



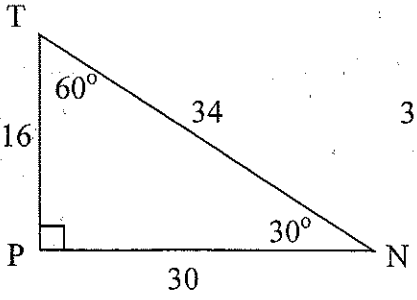
Congruent Ratios

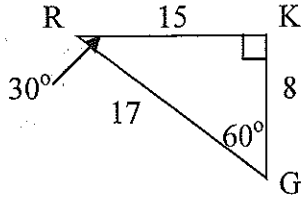
$\frac{AB}{JT} = \frac{CD}{MN}$ big / small

Guided Practice:

1. Are the following triangles similar?

$\triangle TPN \sim \triangle GKR$ ← Similarity Statement





Small / large

$\frac{KG}{TP} = \frac{8}{16} = \frac{1}{2}$

$\frac{KR}{PN} = \frac{15}{30} = \frac{1}{2}$

$\frac{RG}{TN} = \frac{17}{34} = \frac{1}{2}$

Cornell Notes

Main Ideas/Questions

Name:_____ Date: _____

7.1

Title of Notes: **Ratios/Proportions - Similar Polygons**

3/4

Review:

A **ratio** is a comparison of two quantities. A **proportion** is a statement or equation showing that two ratios are equal. $\frac{3}{4} = \frac{6}{8}$

Review Practice

Teams	Wins	Losses
Hawks	16	13
Tigers	15	14
Mustangs	12	16

1. games won to games lost for Hawks 16/13
2. games won by the Hawks to games won by Tigers 16/15
3. games won to games played for Tigers 15/29
4. games won to games played for Mustangs 12/28 = 3/7

Properties of Proportions

$\frac{a}{b} = \frac{c}{d}$ is equivalent to

(1) $ad =$ cb (2) $\frac{b}{a} = \frac{d}{c}$ (3) $\frac{a}{c} = \frac{b}{d}$ (4) $\frac{a+b}{b} = \frac{c+d}{d}$

Solve each proportion using cross products

5. $\frac{9}{28} \times \frac{x}{84}$

$\frac{756}{28} = \frac{28x}{28}$

$27 = x$

6. $\frac{3}{18} \times \frac{4x}{7}$

$\frac{21}{72} = \frac{72x}{72}$

$\frac{7}{24} = x$

7. $\frac{x+5}{7} \times \frac{x+3}{5}$

$5x + 25 = 7x + 21$

$-5x \quad -5x$

$25 = 2x + 21$

$-21 \quad -21$

$\frac{4}{2} = \frac{2x}{2}$

$x = 2$

8. $\frac{5}{15} \times \frac{x}{x+8}$

$15x = 5x + 40$

$10x = 40$

$x = 4$

9. $\frac{3}{2x+6} = \frac{6}{4x+12}$

$12x + 36 = 12x + 36$

$0x = 0$

$x = 0$

$x =$ any #

10. $\frac{2x+3}{5} = \frac{3}{8}$

$8(2x+3) = 15$

$16x + 24 = 15$

$16x = -9$

$x = -9/16$