Geometry Worksheet - Similar polygons   Name_____
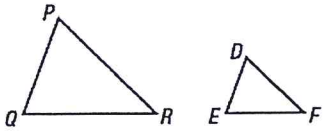
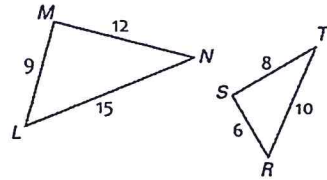**1.** If polygons are similar then what do you know about the corresponding sides and the corresponding angles?

Given the similar figures, name <u>all pairs</u> of corresponding sides and angles. Look at the similarity statement to help.
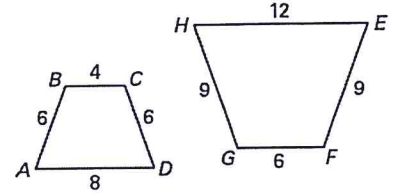
2. $\triangle PQR \sim \triangle DEF$

3. $\triangle LMN \sim \triangle RST$

4. $ABCD \sim HGFE$

$\overline{QP} \rightarrow$ _____ $\angle Q \cong$ _____

$\overline{PR} \rightarrow$ _____ $\angle P \cong$ _____

$\overline{RQ} \rightarrow$ _____ $\angle R \cong$ _____

$\overline{LM} \rightarrow$ _____ $\angle L \cong$ _____

$\overline{MN} \rightarrow$ _____ $\angle M \cong$ _____

$\overline{NL} \rightarrow$ _____ $\angle N \cong$ _____

$\overline{AB} \rightarrow$ _____ $\angle A \cong$ _____

$\overline{BC} \rightarrow$ _____ $\angle B \cong$ _____

$\overline{CD} \rightarrow$ _____ $\angle C \cong$ _____

$\overline{DA} \rightarrow$ _____ $\angle D \cong$ _____

Use the similar polygons above to write the statement of proportionality for each:

____ = ____ = ____   ____ = ____ = ____   ____ = ____ = ____ = ____

$\triangle WXZ \sim \triangle DFG$. **Use the diagram to find the following.**

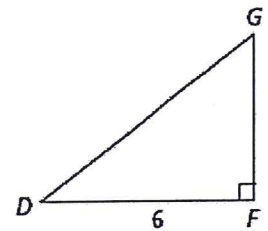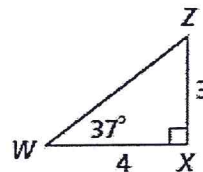**5.** the similarity ratio of $\triangle WXZ$ and $\triangle DFG$

6. $m\angle Z$ **7.** DG **8.** GF
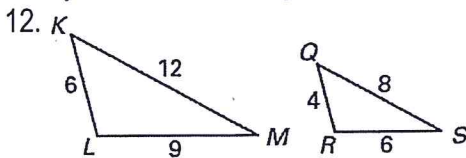
9. $m\angle G$ **10.** $m\angle D$ **11.** WZ

Complete the similarity statement for the similar figures and then find the <u>scale factor</u>. REDUCE fractions!
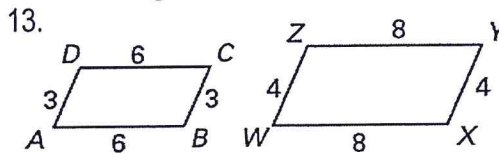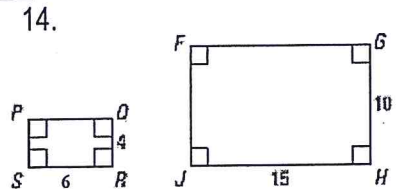
12.

13.

14.

$\triangle LKM \sim \triangle$ _____

$CBAD \sim$ _____

$RSPQ \sim$ _____

Scale Factor:

Scale Factor:

Scale Factor:

15.

$\triangle HJG \sim \triangle$ _____

Scale Factor:

16.

$\triangle NPM \sim \triangle$ _____

Scale Factor:

17.
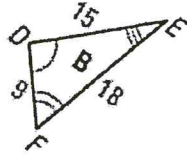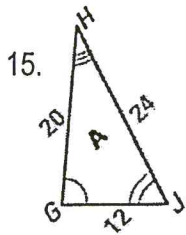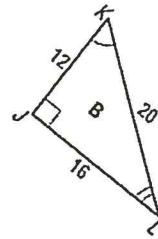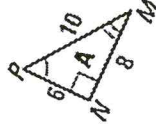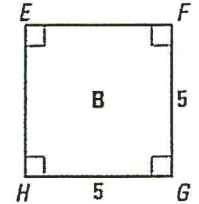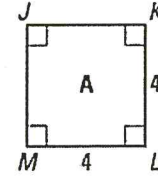
$KJML \sim$ _____

Scale Factor:

The two polygons are similar. Write a proportion and <u>solve</u> for x.

18.

19.

20.
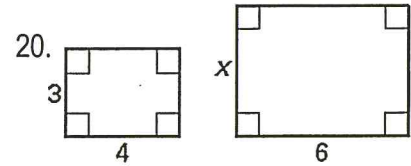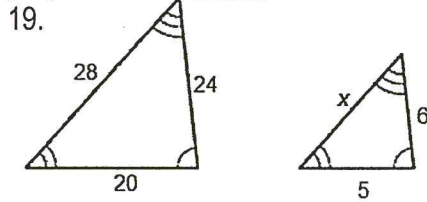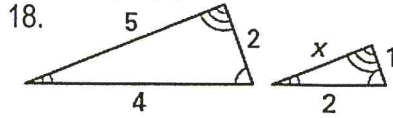
Complete the similarity statement for the similar figures and then find the <u>scale factor</u> .
Next, write proportions and <u>SOLVE</u> for the missing lengths.

21.

22.

23.

24.