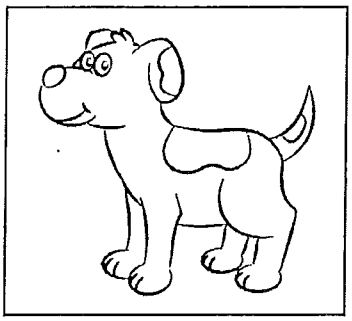
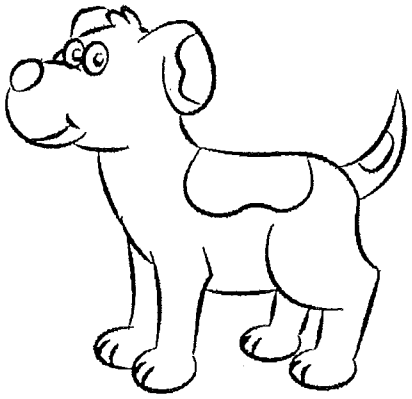
Math 9 **3.1 Enlargements and Reductions** **Name:**

Below are 5 drawings of a dog

What is the same?

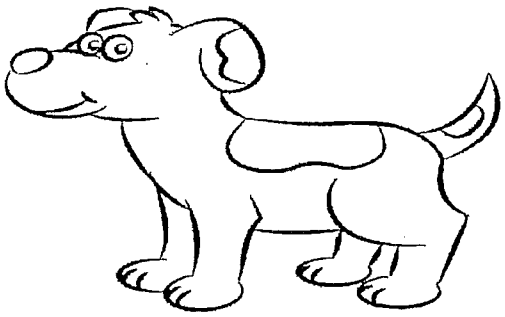
What is different?





A

C



B

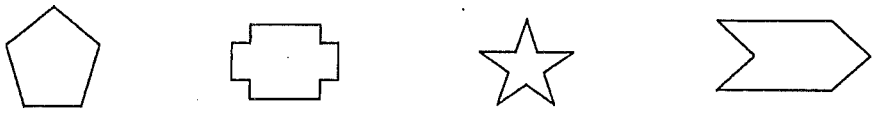
D

How can we tell the similarities and the differences?

Math 9 3.2 Determining Similarity Name:

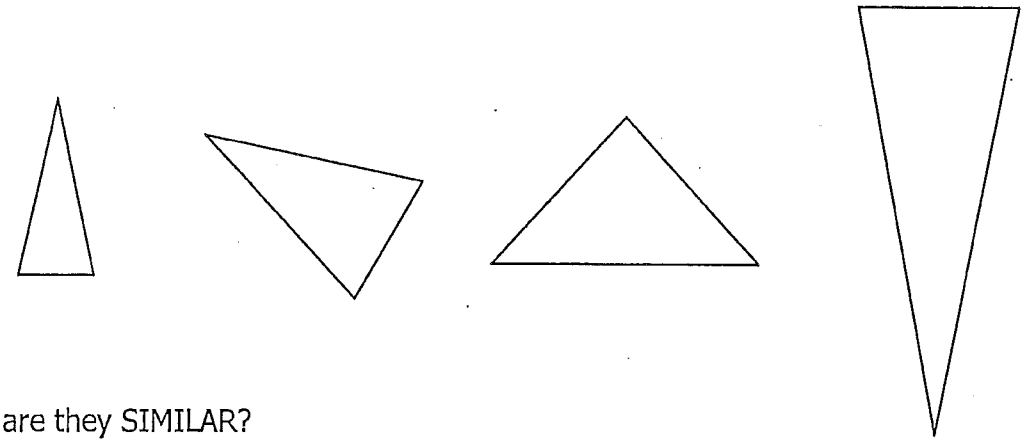
Materials: Ruler, Protractor, graph paper
Goals: To determine whether polygons are similar

POLYGON-A many sided figure



Polygons are SIMILAR if they have the _____ _____

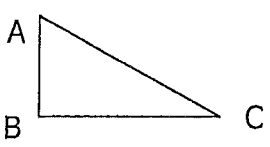
Which of these TRIANGLES are SIMILAR?

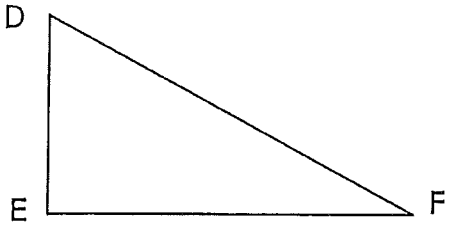


Why are they SIMILAR?

_____

Measure the sides and angles of these shapes. What do you notice?



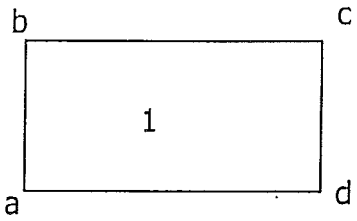


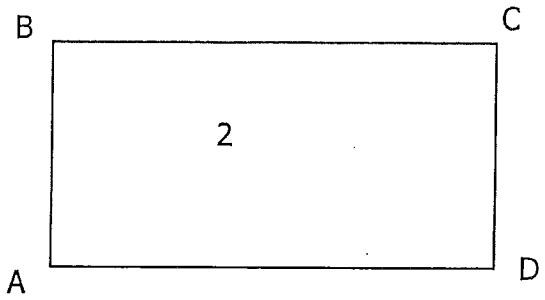
Conclusion: Angles:

Corresponding Angles-

Sides:

RULE: TWO FIGURES ARE SIMILAR IF....





Measure and record the sides of □ abcd and □ ABCD

ab corresponds to AB
cd corresponds to CD

bc corresponds to BC;
da corresponds to DA

Rectangle # 2 is an ENLARGEMENT

The ratio of # 2 to # 1 is 3:2

- If 2 polygons are similar, then the corresponding sides are _____

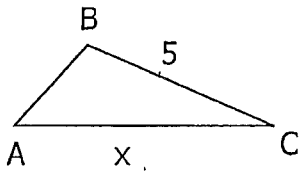
_____

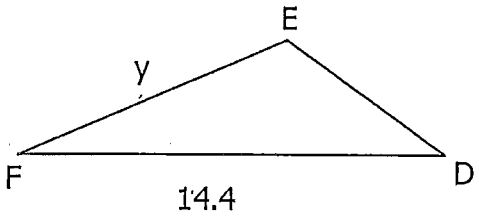
- And the corresponding angles are _____

CONCLUSION
TWO OR MORE POLYGONS ARE SIMILAR WHEN THEY ARE EITHER
_____ OR
One looks like an _____ or a _____ of the other

USING THE SIMILAR POLYGON PROPETY TO FIND A MISSING SIDE

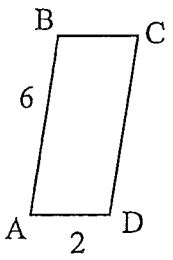
Find the length of ******

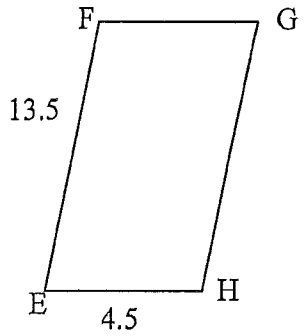


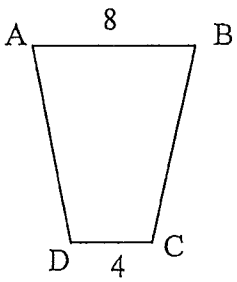


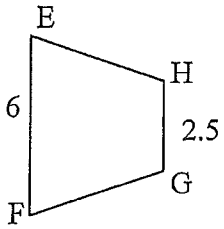
Math 9 3.2 Worksheet Name:

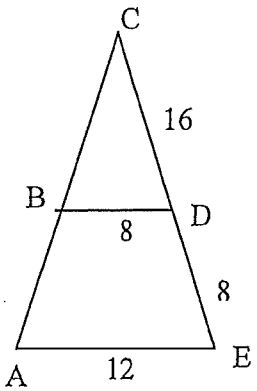
Determine whether the following pairs of polygons are similar











Math 9 3.3 Scale Factor Name
Block:

- The SCALE FACTOR is the number by which a corresponding side of a polygon is MULTIPLIED, to form a new polygon

SCALE FACTOR can be shown in several ways

Ratio	3:2 or 1.5:1 or $\frac{3}{2}$
Percent	150%
Decimal	1.5

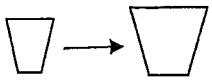
ALL OF THE SCALE FACTORS TO LEFT ARE

ENLARGEMENTS

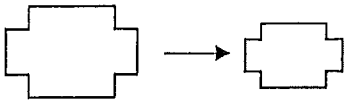
NOTE: The polygons must first be SIMILAR

- Do Activity on pp. 110-111

Any scale factor greater than 1 is an ENLARGEMENT

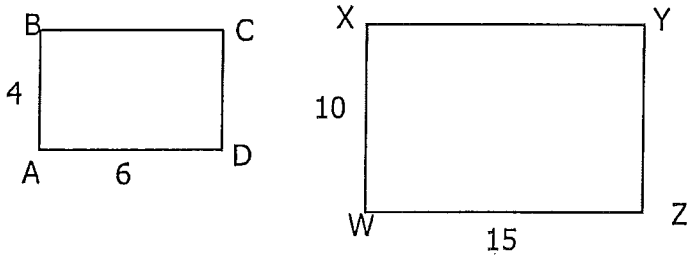


Any scale factor less than 1 is a REDUCTION



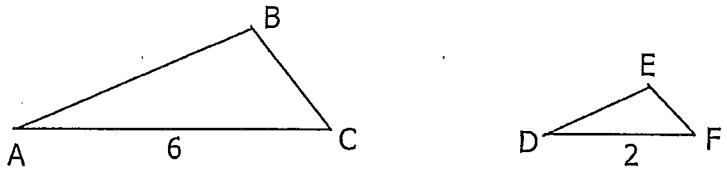
❖ ENLARGEMENTS

The second rectangle is an ENLAREMENT of the first one. Determine the SCALE FACTOR of the following enlargement

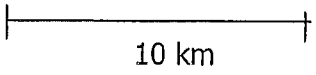


❖ REDUCTIONS

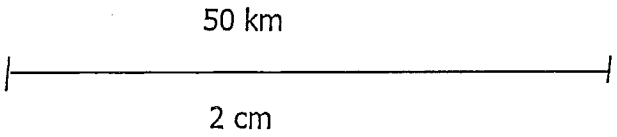
Determine the scale factor of this REDUCTION



❖ MAPS ARE A GOOD EXAMPLE OF USING SCALE FACTOR

1. 1 CM = 20 KM 2. 1: 20 000 3. 

Example: Given the following scale



50 km of real distance corresponds to

2 cm on the map

What is the ACTUAL DISTANCE for a map distance of 7 cm.