Key

20.2 I can perform dilations.

Scale Factor

1. Circle whether the following situations are REDUCTIONS OR ENLARGEMENTS.

a) Scale Factor of 1:7
(pre-image : image)

Reduction ***or*** ***Enlargement***

b) $D_{O,3}(H) = H'$

Reduction ***or*** ***Enlargement***

c)

Reduction ***or*** ***Enlargement***

d) $D_{O,1.75}(A) = A'$

Reduction ***or*** ***Enlargement***

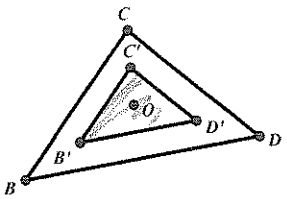
e) Scale Factor of 3:2
(pre-image : image)

Reduction ***or*** ***Enlargement***

f) $D_{O,\frac{5}{3}}(G) = G'$

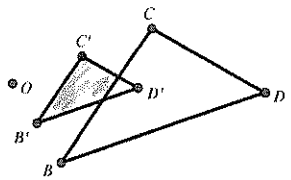
Reduction ***or*** ***Enlargement***

g)



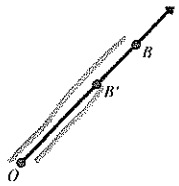
Reduction ***or*** ***Enlargement***

h)



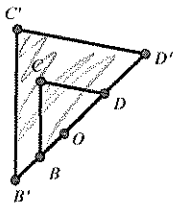
Reduction ***or*** ***Enlargement***

i)



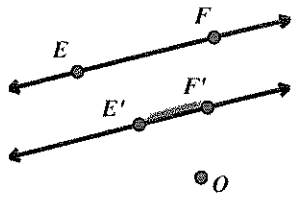
Reduction ***or*** ***Enlargement***

j)



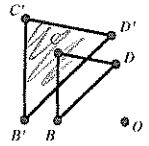
Reduction ***or*** ***Enlargement***

k)



Reduction ***or*** ***Enlargement***

l)



Reduction ***or*** ***Enlargement***

m) For **problem j** above, if the scale factor is 2, what is the similarity ratio, pre-image : image? 1 : 2

n) For **problem h** above, if the scale factor is $\frac{1}{2}$, what is the similarity ratio, pre-image : image? 2 : 1

p) For **problem i** above, if the scale factor is $\frac{2}{3}$, what is the similarity ratio, pre-image : image? 3 : 2

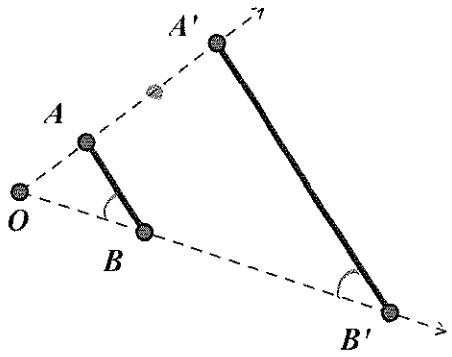
q) For **problem g** above, the scale factor is .75 = $\frac{3}{4}$. If $\overline{BD}$ = 8, then $\overline{B'D'}$ = 6 . If $\overline{B'C'}$ = 3, then $\overline{BC}$ = 4 .

$\frac{4}{3} = \frac{BD}{B'D'}$ $\frac{4}{3} = \frac{8}{B'D'}$ $B'D' = 6$ or $8(.75) = 6$ $8\left(\frac{3}{4}\right) = 6$

2. Dilations create figures that are Similar, which means their corresponding angles are $\cong$ and their corresponding sides are proportional.

3. Answer the following questions about the dilation, centered at O.

a) Is this an enlargement or a reduction? enlargement
Explain how you determined your answer.
it got larger



b) What scale factor do you think this is? 3
Explain how you determined your answer.
I can draw a pt between A + A' + the 4 segments are ≅

c) What angle is the same size as ∠OBA? ∠OB'A'
Explain how you determined your answer.
Dilation → similar → ≅ ∠s

4. Answer the following questions about the dilation centered at O with a scale factor of 3.
OA = 3, OB = 5 and AB = 4

a) A'B' = 12

b) OB' = 15

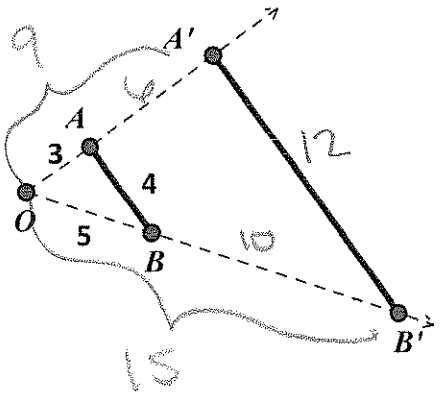
c) OA' = 9

d) AA' = 10 (be careful)

e) BB' = 10 (be careful)

f) What is the ratio of OA : OA'? 3:9 1:3

g) What is the ratio of OA : AA'? 3:6 1:2



5. Create an example, similar to problems #3 and 4, that illustrates a scale factor of $\frac{1}{2}$.