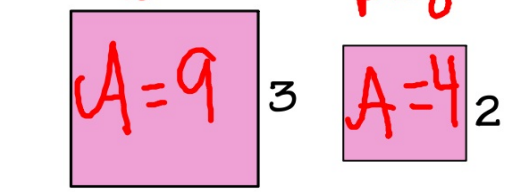
11-7 Ratios of Areas

March 12

std. 10.0



squares

scale factor = 2:3 or $\frac{2}{3}$

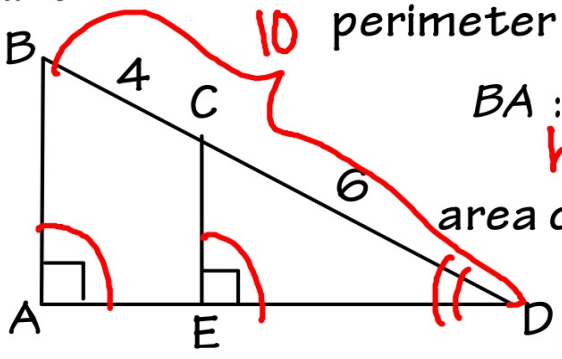
ratio of perimeters = 8:12 = $\frac{8}{12} = \frac{2}{3}$

ratio of areas = 4:9 or $\frac{4}{9} = \frac{2^2}{3^2}$

For similar figures with a scale factor of $a:b$

1. the ratio of the corresponding dimensions (altitudes, bases, radii, perimeters, etc.) = $a:b$
2. the ratio of the areas = $a^2:b^2$

EX. 1



perimeter $\triangle ABD$: perimeter $\triangle ECD$ = 5:3

$BA : CE$ = 5:3 hts

area of $\triangle ABD$: area of $\triangle ECD$ = 25:9

scale $10/6 = 5/3$

EX. 2 The ratios of the areas of 2 similar polygons is 49 : 36.
What is the ratio of the perimeters?

$7^2 : 6^2$

7:6