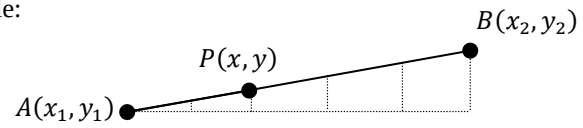
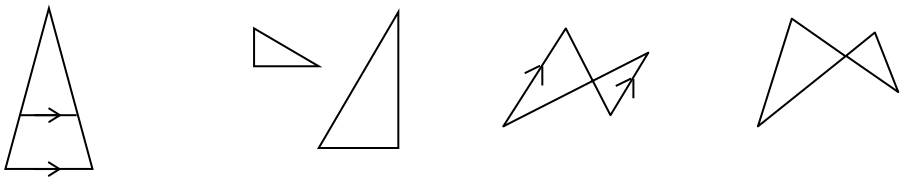
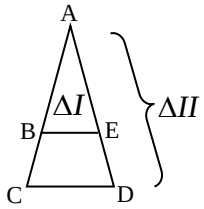
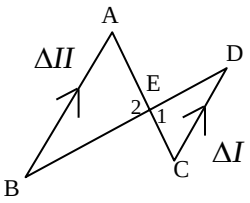
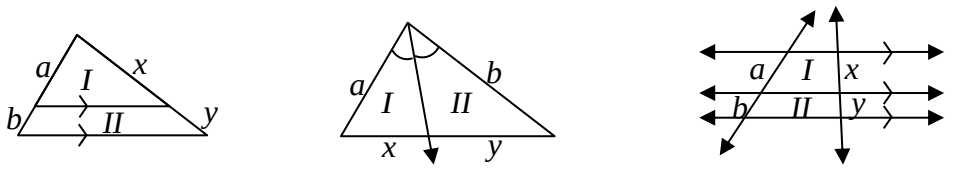
APPLIED GEOMETRY
CHAPTER 7: SIMILARITY

COLORED PENCILS, CALCULATOR, COMPASS, AND GRAPH PAPER NEEDED
SHOW ALL WORK

LESSON	TOPIC	ASSIGNMENT
Day 1	Ratios and Proportions (7 – 1)	WORKSHEET CH7 D1
Day 2	Ratios in Similar Polygons (7 - 2)	WORKSHEET CH7 D2
Day 3	Triangle Similarity Criteria SSS~,AA~,SAS~ (7 – 3)	WORKSHEET CH7 D3
Day 4	**QUIZ Days 1 – 3**	WORKSHEET CH7 D4
Day 5	Applying Properties of Similar Triangles (Splitters) (7 – 4)	WORKSHEET CH7 D5
Day 6	Using Proportional Relationships (7 – 5)	WORKSHEET CH7 D6
Day 7	Dilations & Similarity in the Coordinate Plane (7 – 6)	WORKSHEET CH7 D7
Day 8	Review Day	COMPLETE REVIEW PACKET & ORGANIZE BINDER DUE NEXT CLASS
Day 9	TEST	

GEOMETRY LESSON SUMMARIES UNIT 7: SIMILARITY NAME: _____

DAY & DATE	MAIN POINTS / FORMULAS TO REMEMBER	QUESTIONS AFTER HMWK
7-1 Directed Line Segments	$P(x,y) = ($ $)$ Fill in the drawing for the example: P is $\frac{2}{5}$ of the way from A to B or P divides segment $\overline{AB}$ into ratio 2:3 	
7-2 Similarity Ratio & Scale Factor	$\left[\frac{Pre-Image}{Image}\right]$ = _____ $\left[\frac{Image}{Pre-Image}\right]$ = _____, k • A transformation called a _____ produces a similar figure (non-rigid motion). If k <1 → _____; If k >1 → _____ • Dilations preserve _____, _____, _____, _____ but not _____ (therefore they are not isometric). • The only invariant point would be a vertex/point that is also the _____.	
7-3 SSS~ SAS~ AA~	Definition: two polygons are similar if and only if their **corresponding** angles are _____ and their **corresponding** sides are _____ $\left[\frac{\text{Side}_1}{\text{Side}_2} = \frac{\text{Side}_1}{\text{Side}_2}\right]$ with the same similarity ratio $\left[\frac{\text{Side}_1}{\text{Side}_2} = \frac{a}{b}\right]$ or equal cross products. • Draw an example of the triangle similarity criteria for AA~  • Given the similarity statement $\Delta I \sim \Delta II$, write the proportion for each set of corresponding sides using the specific criteria: SSS~  $\frac{\Delta I}{\Delta II}$: ___ = ___ = ___ SAS~  $\frac{\Delta I}{\Delta II}$: ___ = ___ w/vertical angles $\measuredangle 1 \cong \measuredangle 2$	

7-4 Similarity Proofs	• Once two triangles are proven to be similar, use $\sim \Delta$'s $\rightarrow$ _____ corresponding angles $\sim \Delta$'s $\rightarrow$ _____ corresponding sides (*then use* _____ *property if want side • side = side • side*) • In the coordinate plane, be sure to clearly show the similarity ratio, which involves _____ radicals.	
7-5 Splitters	Δ Side Splitter Δ Angle Bisector Splitter Transversal Splitter  $\frac{I}{II} : - = -$ $\frac{I}{II} : - = -$ $\frac{I}{II} : - = -$	
7-6 Proportional Relationships	$\frac{Perimeter_1}{Perimeter_2} =$ _____ and $\frac{Area_1}{Area_2} =$ _____ Be sure to analyze the units given for dimensions.	
7-7 Line Dilations	Steps for a line dilation: 1) _____ the given line to get two pre-image points 2) _____ the two pre-image points 3) _____ the image line 4) Compare the _____ of the pre-image and image lines to determine if the lines are coincident or parallel. Notes: • Slopes between the pre-image and image are _____. • Images of dilated lines passing through the origin are _____; all other lines will be _____.	
7-Review		