

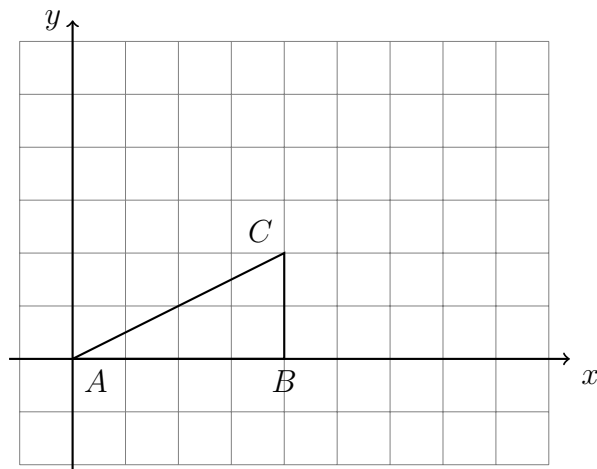
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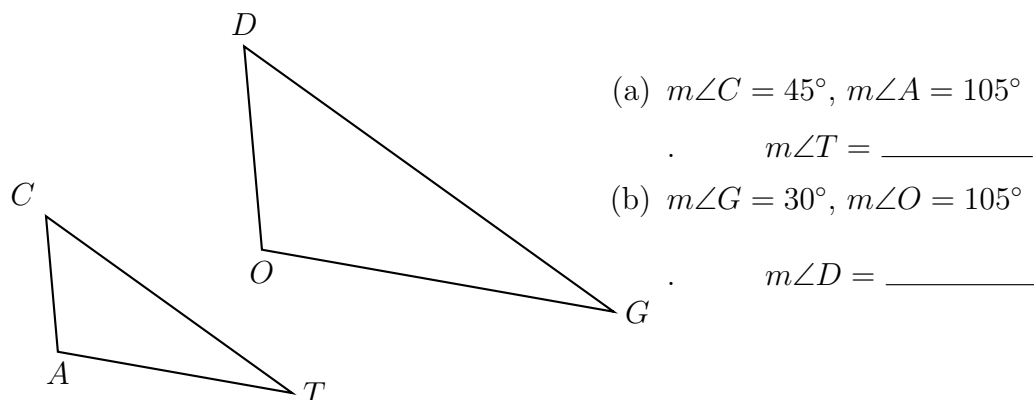
7.1 Classwork: Dilation**CCSS.HSG.SRT.B.5**

1. Do Now: Plot and label the triangle $A'B'C'$. $A'(0, 0)$, $B'(8, 0)$, $C'(8, 4)$.

Make a list of comparisons of the two triangles: their sides' lengths, location, their angles, orientation, area and perimeter.

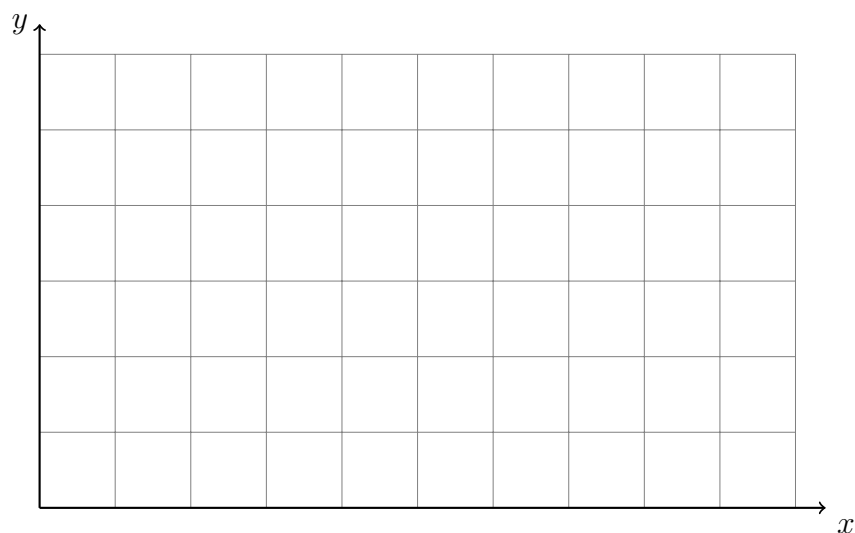


2. Find the missing angle measures. Are $\triangle CAT$ and $\triangle DOG$ congruent?



3. This is the symbol for similar triangles: $\triangle ABC \sim \triangle DEF$. Write down two definitions of similar triangles.

4. (a) Graph and label $\triangle ABC$ with $A(0, 0)$, $B(3, 2)$, and $C(3, 0)$.



- (b) Dilate or stretch the triangle by a factor of $k = 3$ centered at the origin.
 $\triangle ABC \rightarrow \triangle A'B'C'$
- (c) Find each ratio or fraction.

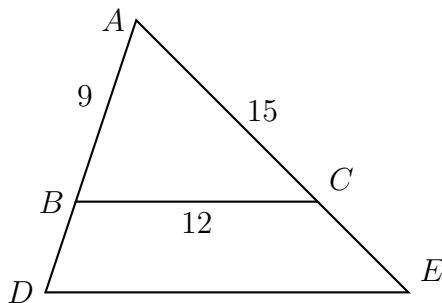
$$\frac{A'C'}{AC} =$$

$$\frac{B'C'}{BC} =$$

$$\frac{A'B'}{AB} =$$

5. Triangle ABC is dilated with a scale factor of $k = \frac{5}{3}$ centered at A , yielding $\triangle ADE$, as shown. Given $AB = 9$, $BC = 12$, and $AC = 15$.

Find AD , AE , and DE .



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Definition of *similar* triangles: Triangles that have the same shape, but not necessarily the same size, are similar. Their corresponding angles are congruent and their corresponding sides are proportional.

Dilation definition of similarity: Two figures are similar if one or more rigid motions and a dilation will carry one figure onto the other.