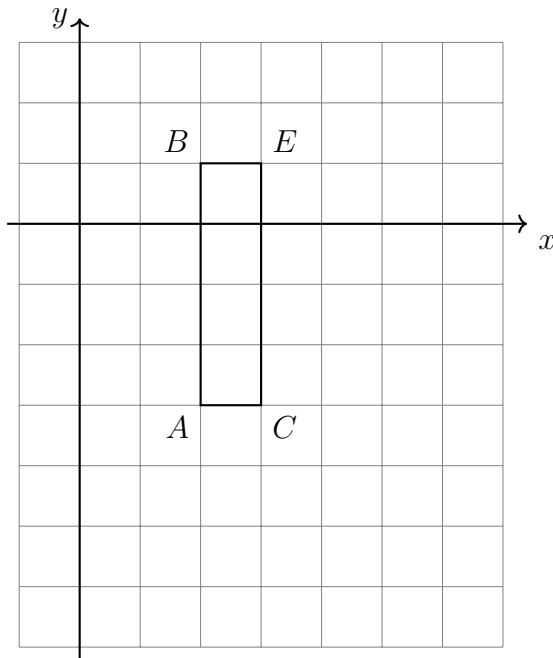


Name:

9.8 Classwork: Scaling area and volume

CCSS.HSG.SRT.B.5

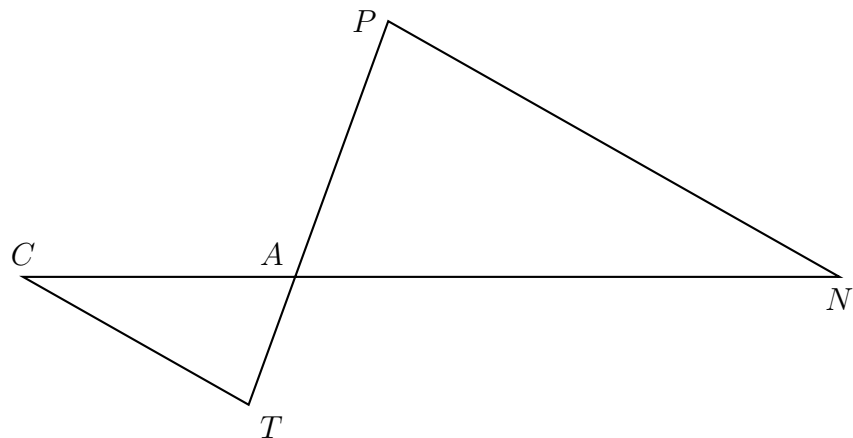
1. Dilate rectangle $BECA \rightarrow B'E'C'A'$ by a factor of $k = 2$ centered at $(0, 0)$.



Find the area of the preimage and image.
 (show the length times width calculation)

By what factor did the area scale?

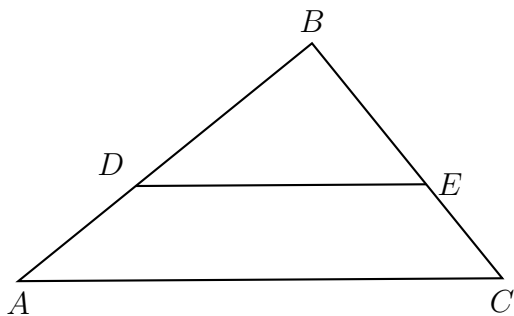
2. Given $\triangle CAT \sim \triangle NAP$. $CA = 14$, $CT = 13.3$, $NA = 28$, $TP = 21$, $m\angle T = 80^\circ$, $m\angle NAP = 70^\circ$. Mark the given values on the diagram, find the scale factor, and solve the triangles (all angles and lengths).



3. After a dilation with center $(0, 0)$, the image of \overline{ST} is $\overline{S'T'}$. If $ST = 8.2$ and $S'T' = 28.7$, find the scale factor of this dilation.

4. Regents problem: In triangle ABC , points D and E are on sides of \overline{AB} and \overline{BC} , respectively, such that $\overline{DE} \parallel \overline{AC}$, and $BD : DA = 3 : 2$.

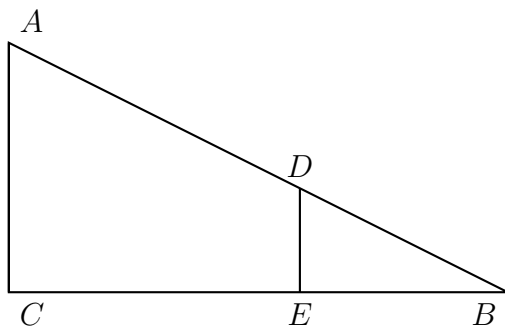
If $DB = 11.4$ and $DE = 12.6$, what is the length of \overline{AC} , to the *nearest tenth*?



5. In right triangle ABC shown below, point D is on \overline{AB} and point E is on \overline{BC} such that $\overline{AC} \parallel \overline{DE}$. Given $AB = 13.2$, $BC = 12$, and $EC = 7$.

(a) Find the length of \overline{BE} .

(b) Find the scale factor, k , dilating $\triangle DBE \rightarrow \triangle ABC$, centered at B .



(c) Find BD .

(d) Find as many other lengths and angle measures as you can.