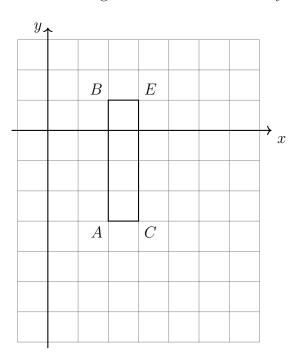
29 March 2023

Name:

9.8 Classwork: Scaling area and volume

${\bf CCSS.HSG.SRT.B.5}$

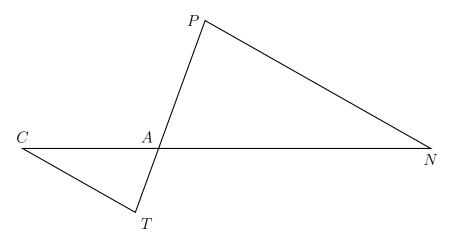
1. Dilate rectangle $BECA \rightarrow B'E'C'A'$ by a factor of k=2 centered at (0,0).



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

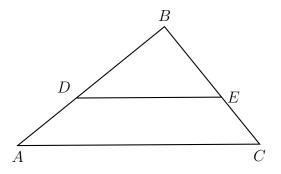
By what factor did the area scale?

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).

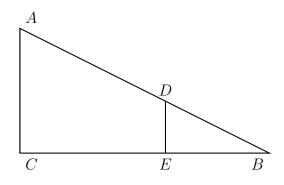


- 3. After a dilation with center (0,0), the image of \overline{ST} is $\overline{S'T'}$. If ST=8.2 and S'T'=28.7, find the scale factor of this dilation.
- 4. Regents problem: In triangle ABC, points D and E are on sides of \overline{AB} and \overline{BC} , respectively, such that $\overline{DE} \parallel \overline{AC}$, 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.