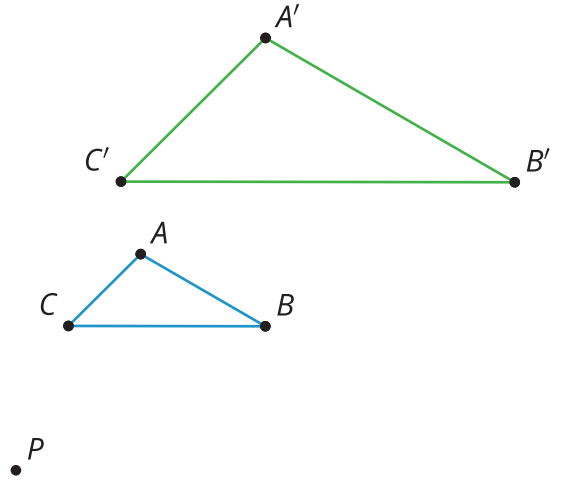
Unit 3 Lesson 4: Dilating Lines and Angles

1 Angle Articulation (Warm up)

Student Task Statement

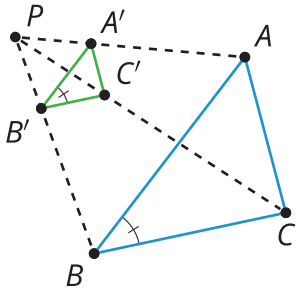


Triangle $A'B'C'$ is a dilation of triangle ABC using center P and scale factor 2.

1. What do you think is true about the angles in $A'B'C'$ compared to the angles in ABC?
2. Use the tools available to figure out if what you thought was true is definitely true for these triangles.
3. Do you think it would be true for angles in any dilation?

Activity Synthesis

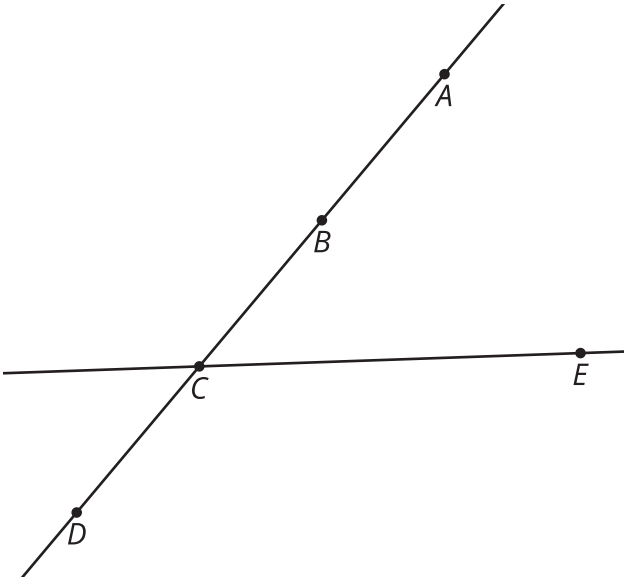
$\triangle A'B'C'$ is a dilation of $\triangle ABC$ so $\angle B \cong \angle B'$



2 Dilating Lines

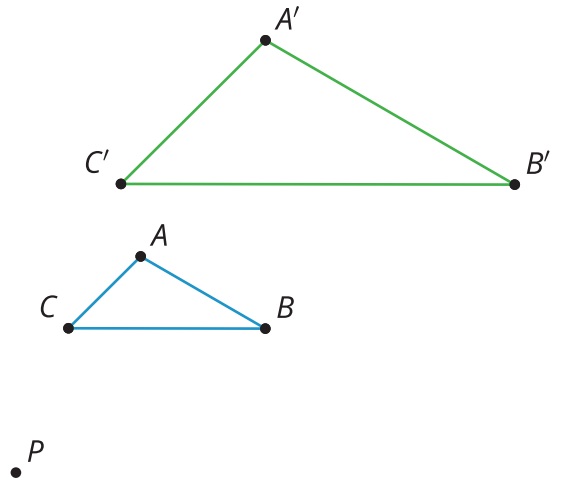
Student Task Statement

1. Dilate point A using center C and scale factor $\frac{3}{4}$.
2. Dilate point B using center C and scale factor $\frac{1}{3}$.
3. Dilate point D using center C and scale factor $\frac{3}{2}$.
4. Dilate line CE using center C and scale factor 2.
5. What happens when the center of dilation is on a line and then you dilate the line?



3 Proof in Parallel

Student Task Statement



Jada dilated triangle ABC using center P and scale factor 2.

1. Jada claims that all the segments in ABC are parallel to the corresponding segments in $A'B'C'$. Write Jada's claim as a conjecture.
2. Prove your conjecture.
3. In Jada's diagram the scale factor was greater than one. Would your proof have to change if the scale factor was less than one?

Activity Synthesis

Dilate using center C. $\overleftrightarrow{DE} \parallel \overleftrightarrow{D'E'}$