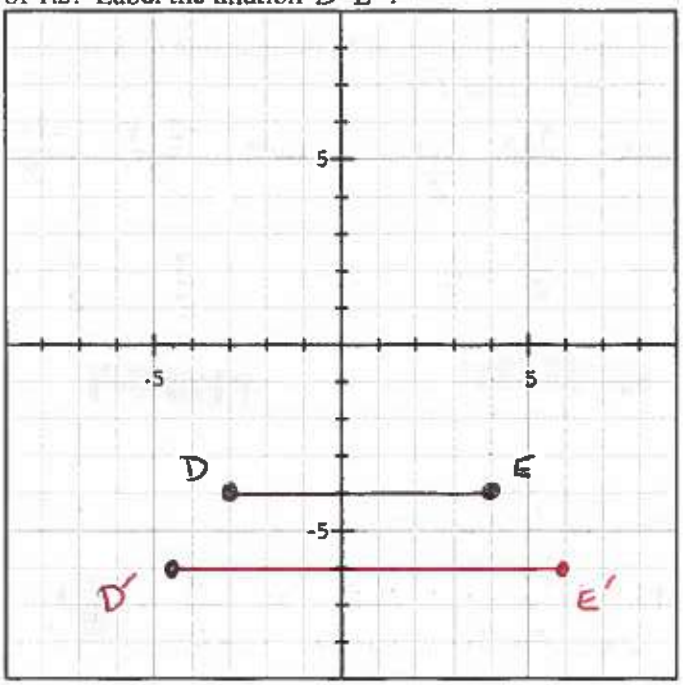
G-SRT.1. Learning Target: *I can verify the following statements by making multiple examples: a dilation of a line is parallel to the original line if the center of dilation is not on the line; a dilation of a line segment changes the length by a ratio given by the scale factor.*

(-4,5)-6) (6,-6)

3. (a) Graph $\overline{DE}$ with D(-3,-4) and E(4,-4). Then graph its dilation using the origin as the center and a scale factor of 1.5. Label the dilation $\overline{D'E'}$.



(b) Find the length of the dilated line segment.

D'E' = 10.5 by counting

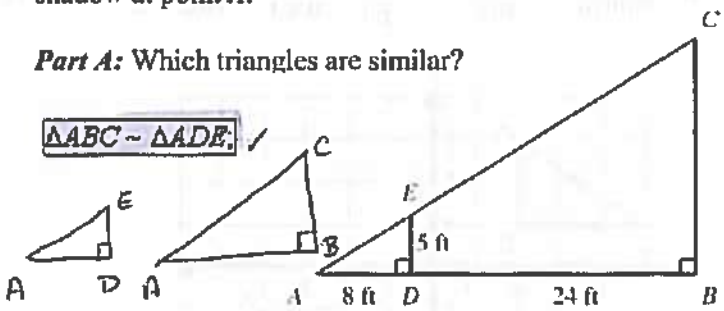
DE = 7

(c) Find the value of the ratio of the dilated segment to the length of the original segment.

$\frac{10.5}{7}$ = 1.5 = RATIO OF THE DILATION = SCALE FACTOR

G-SRT.2.Learning Target: *I can decide if two figures are similar based on similarity transformations. I can use similarity transformations to explain the meaning of similar triangles as the equality of all corresponding pairs of angles and the proportionality of all corresponding pairs of sides.*

4. Su, who is 5 feet tall, is standing at point *D* in the drawing below. The top of her head is at point *E*. A tree in the yard is at point *B* with the top of the tree at point *C*. Su stands so her shadow meets the end of the tree's shadow at point *A*.



Part A: Which triangles are similar?

$\triangle ABC \sim \triangle ADE$ ✓

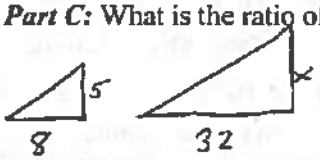
Part B: How do you know?

AA SIMILARITY

1.) $\angle ADE \cong \angle ABC$

2.) $\angle A \cong \angle A$ IN BOTH $\triangle$

Part C: What is the ratio of the triangles?



$\frac{8}{32}$ OR $\frac{32}{8}$ $\frac{1}{4}$ OR $\frac{4}{1}$

Part D: Find the height of the tree.

$\frac{8}{32} = \frac{5}{x}$

$160 = 8x$

$x = 20$ FT