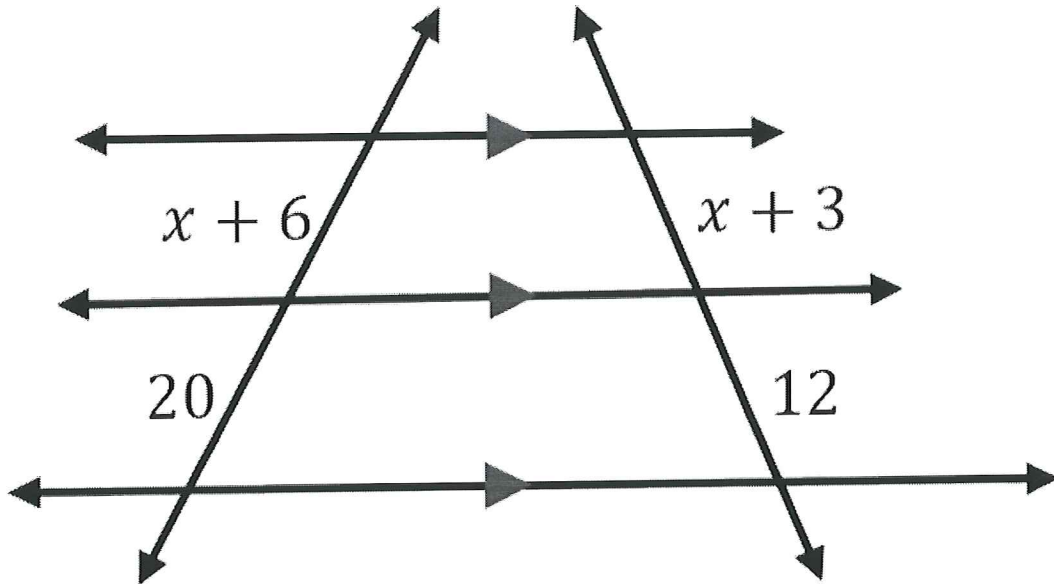


A

Find the value of x in the figure below.



$$\frac{x+6}{20} = \frac{x+3}{12}$$

$$12(x+6) = 20(x+3)$$

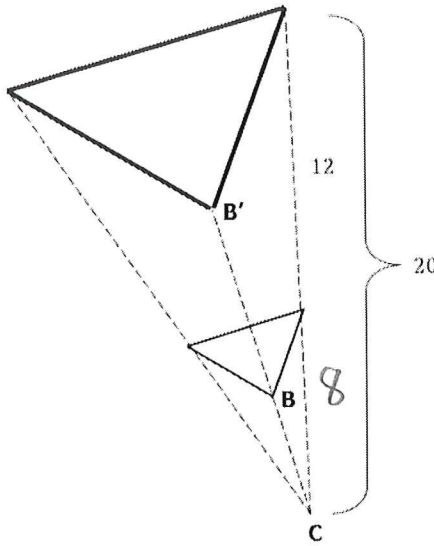
$$\begin{array}{r} 12x + 72 = 20x + 60 \\ -12x \quad -60 \quad -12x \quad -60 \end{array}$$

$$\frac{12}{8} = \frac{8x}{8}$$

$$x = \frac{3}{2} \text{ or } 1.5$$

B

Find the scale factor of the dilation below.



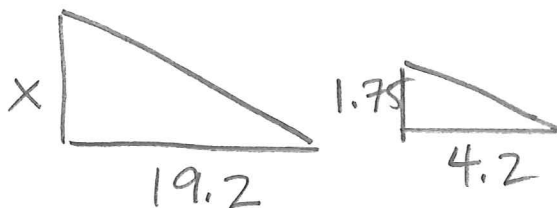
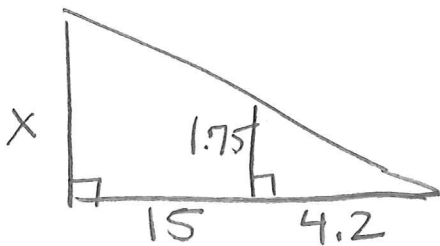
Special case

Scale factor

$$\frac{20}{8} = \left(\frac{5}{2}\right)$$

C

Elena, who is 1.75 m tall, wants to find the height of a monument in a park near where she lives. To find this height, she walks 15 meters along the statue's shadow, and see that her shadow ends at the same place the statue's shadow ends. She is now 4.2 meters from the end of the shadow. How many meters tall is the statue?



$$\frac{x}{1.75} = \frac{19.2}{4.2}$$

$$4.2x = (1.75)(19.2)$$

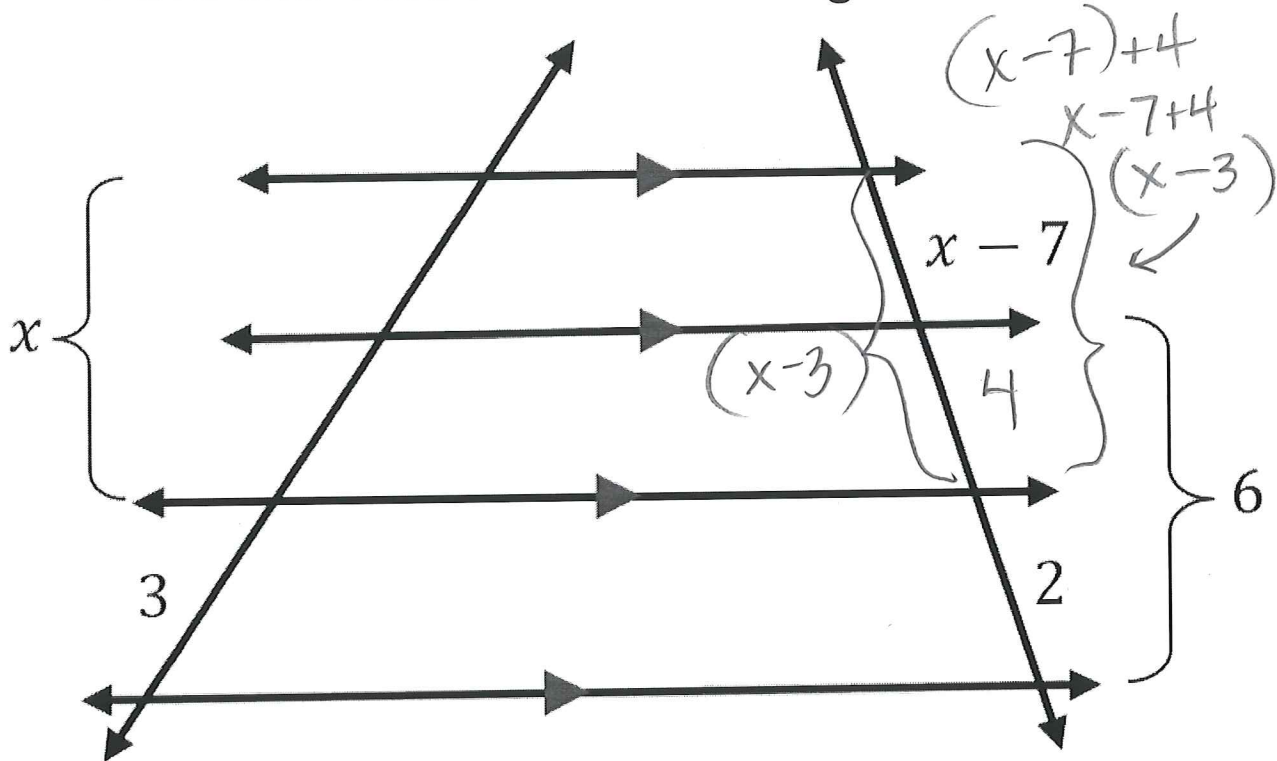
$$\frac{4.2x}{4.2} = \frac{33.6}{4.2}$$

$$x = 8 \text{ m}$$

D

challenge!

Find the value of x in the figure below.



$$\frac{x}{3} = \frac{x-3}{2}$$

$$2x = 3(x-3)$$

$$2x = 3x - 9$$

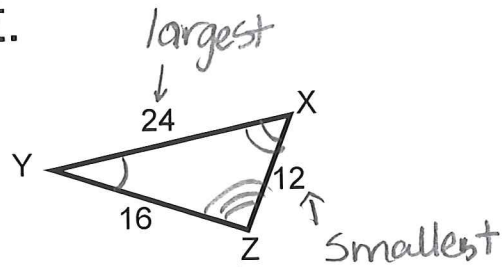
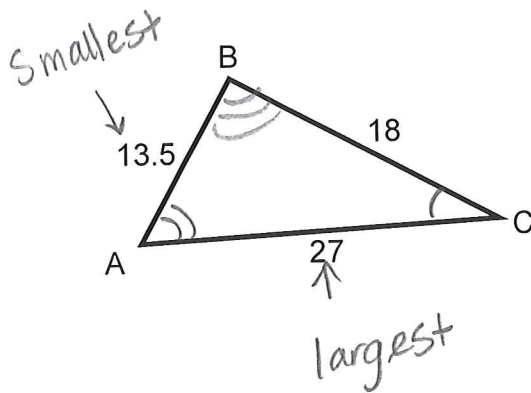
$$\underline{-3x} \quad -3x$$

$$-x = -9$$

$$\boxed{x = 9}$$

E

Are the triangles similar? If so, state why. Then write a similarity statement.



$$\frac{13.5}{12}$$

$$\approx 1.125$$

$$\frac{18}{16}$$

$$\approx 1.125$$

$$\frac{27}{24}$$

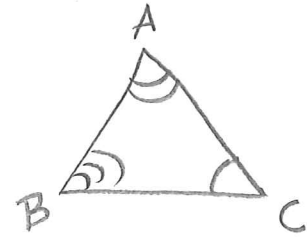
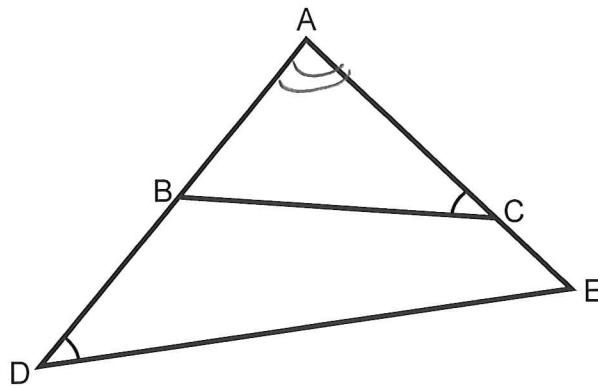
$$= 1.125$$

YES! by SSS~

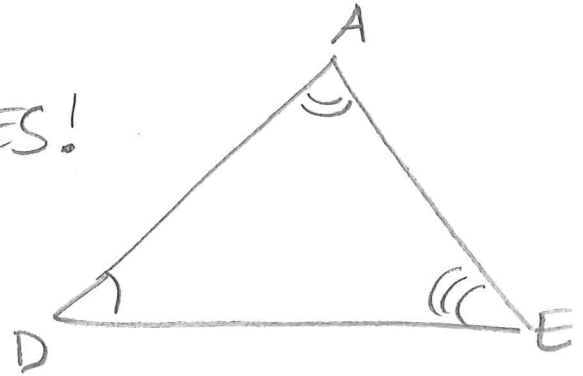
$\triangle CAB \sim \triangle YXZ$

F

Are the triangles similar? If so, state why. Then write a similarity statement.



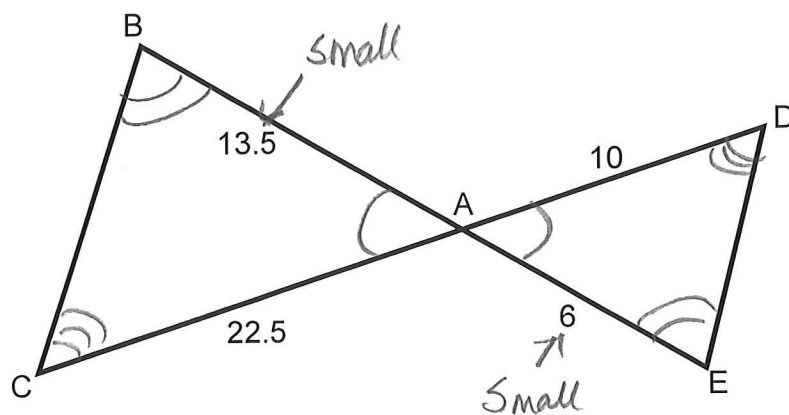
YES!



YES! AA~
 $\triangle CAB \sim \triangle DAE$

G

Are the triangles similar? If so, state why. Then write a similarity statement.



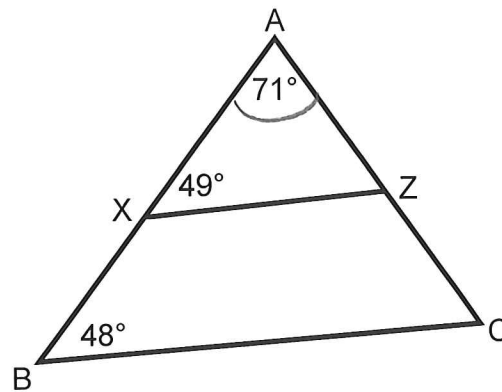
$$\frac{6}{13.5} \approx \overline{.44}$$

$$\frac{10}{22.5} \approx \overline{.44}$$

Yes! SAS ~
 $\triangle ABC \sim \triangle AED$

H

Are the triangles similar? If so, state why. Then write a similarity statement.



No