GrudgeBall!

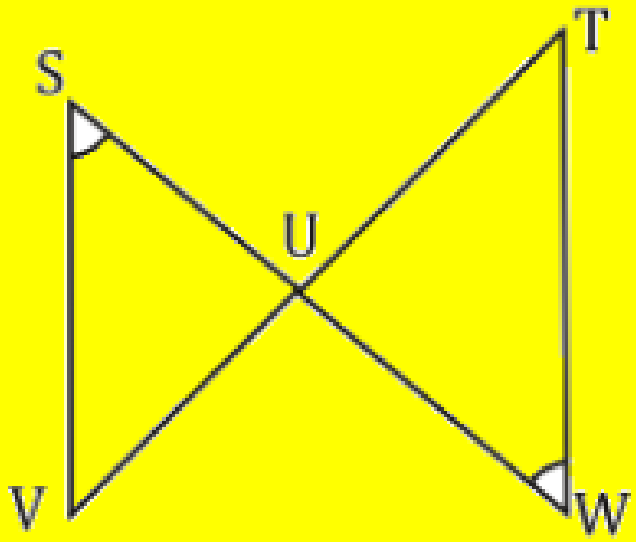
1. Figure ABCD has coordinates A = (1, 1), B = (7, 3), C = (5, –4), and D = (–1, –4). The figure is dilated from the origin by scale factor $k = 3$. Identify the coordinates of the dilated figure A'B'C'D'.

$A' = (3, 3)$ $C' = (15, -12)$

$B' = (21, 9)$ $D' = (-3, -12)$

1. Fill in the blanks

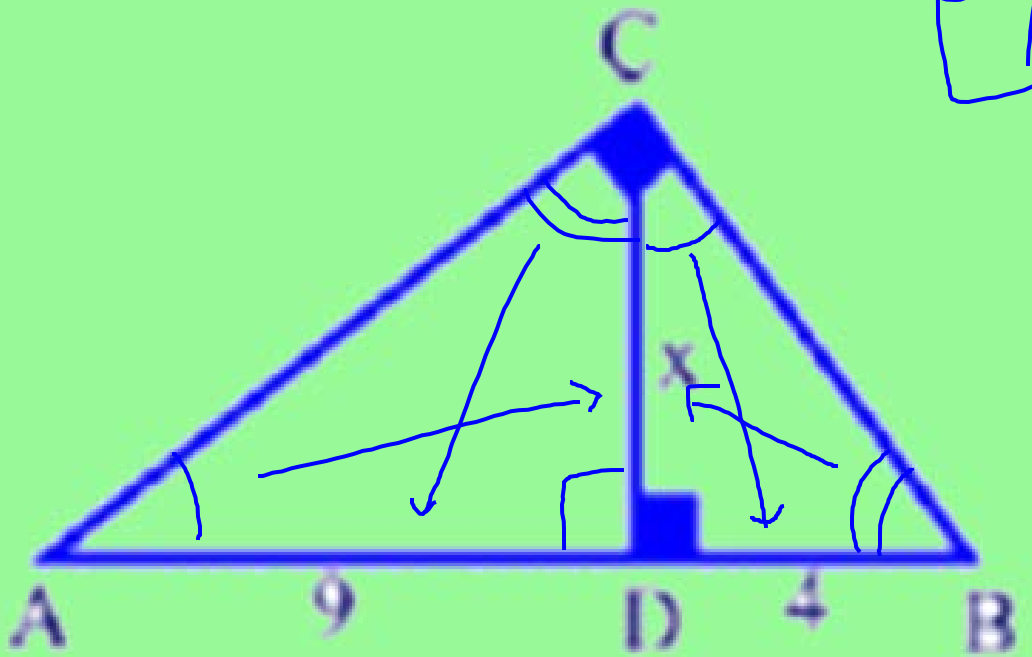
Given: $\angle S \cong \angle W$



Prove: $\triangle SUV \sim \triangle TUW$

Statements	Reasons
1. $\angle S \cong \angle W$	1. Given
2. $\angle SUV \cong \angle WUT$	2. Vert. $\angle$'s are $\cong$
3. $\triangle SUV \sim \triangle TUW$	3. AA $\cong$ AA

Find x:



$$\frac{x}{4} = \frac{9}{x}$$

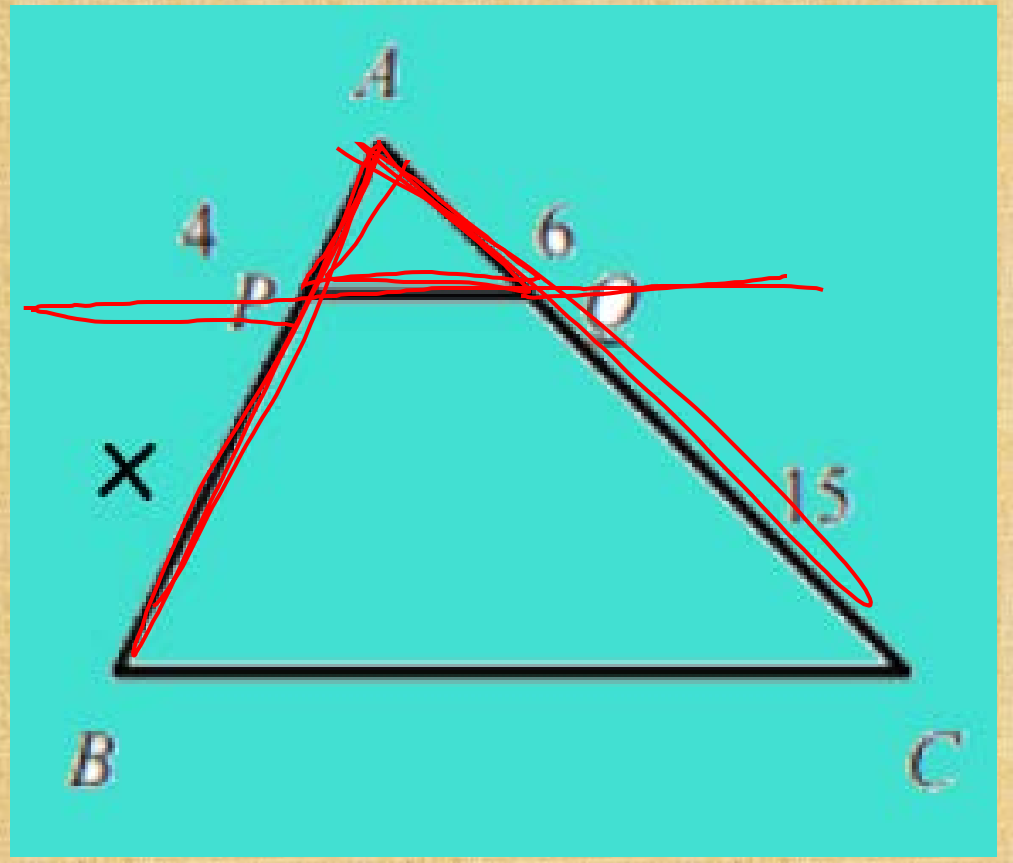
$$\sqrt{x^2} = \sqrt{36}$$

$$x = 6$$

$$\frac{4}{6} = \frac{4+x}{21}$$

$$\frac{4}{x} = \frac{6}{15}$$

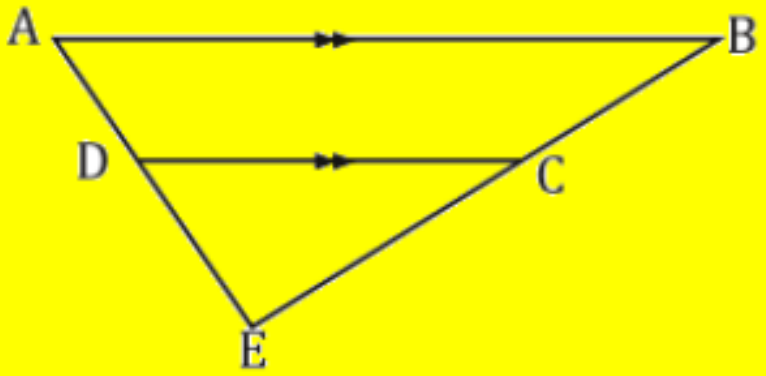
$x = 10$



2. In the coordinate plane, line has a slope of $\frac{1}{4}$ and a y-intercept of (0, -3). Line is the result of dilating line by a scale factor of 2 with a center of (0, 0). What are the slope and y-intercept of line ?

2. Fill in the blanks

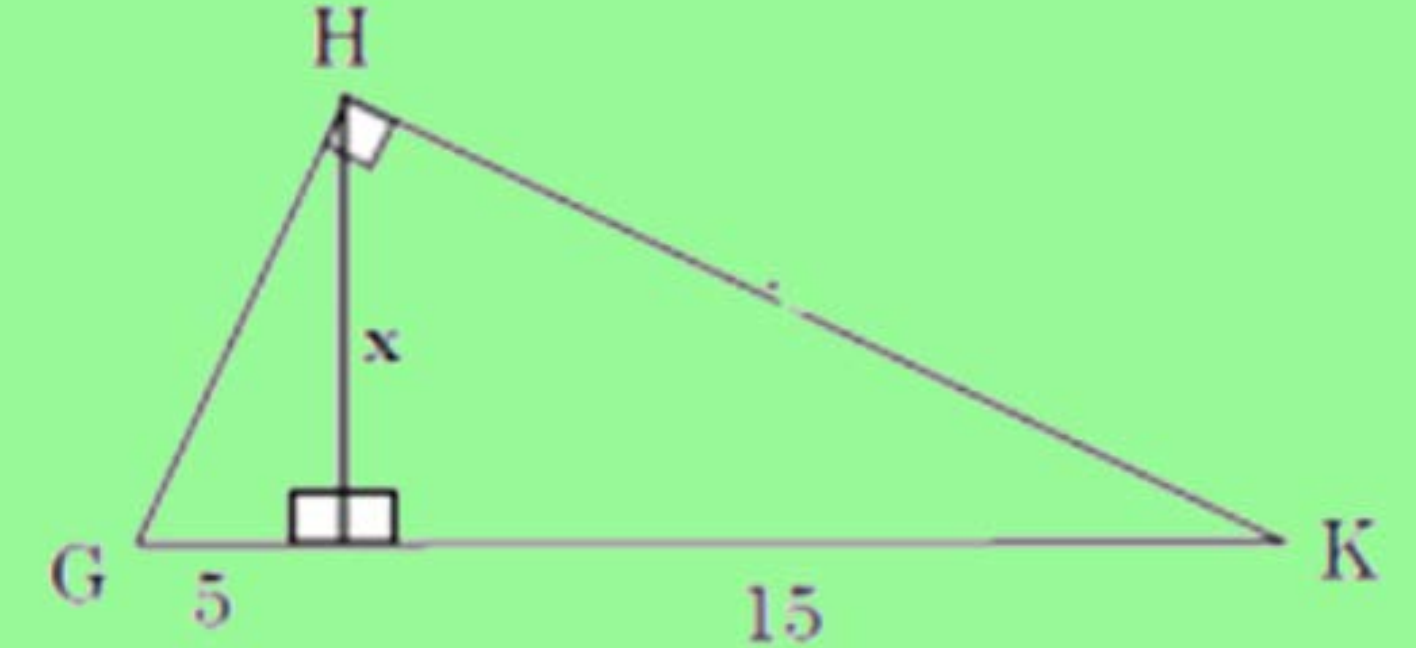
Given: AB||DC



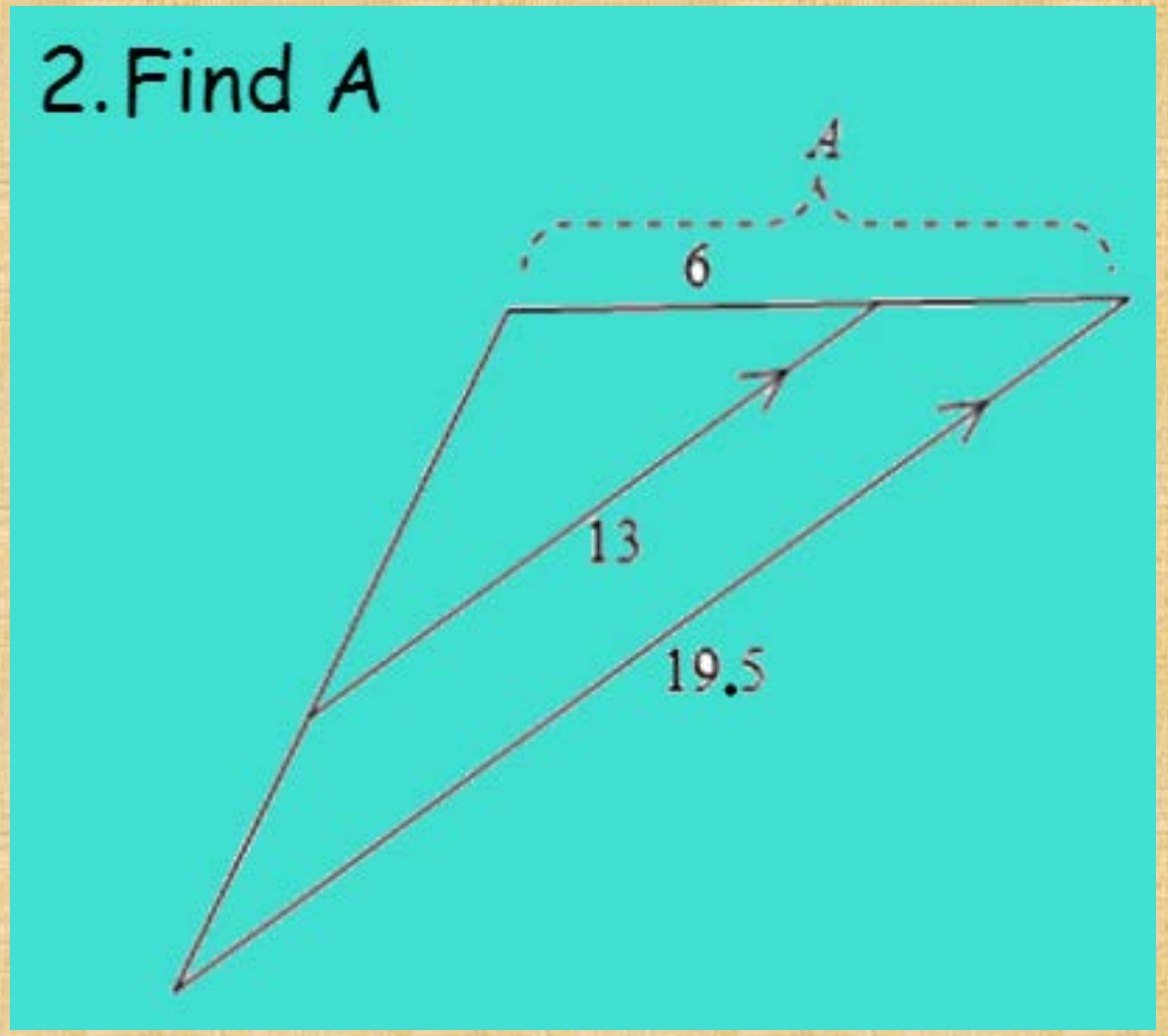
Prove: △ABE~△DCE

Statements	Reasons
1. AB||DC	1. Given
2. ∠A≅∠CDE	2.
3. ∠B≅∠DCE	3.
4. △ABE~△DCE	4. AA

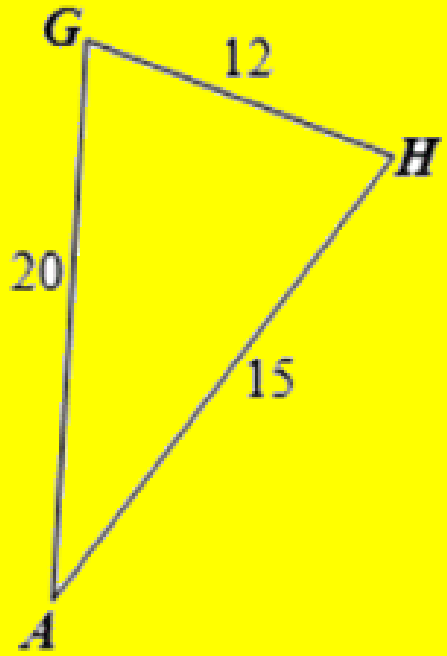
2. Find x.

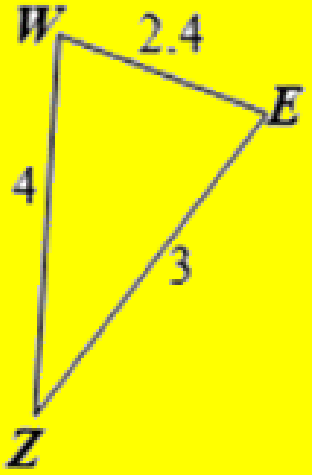


2. Find A



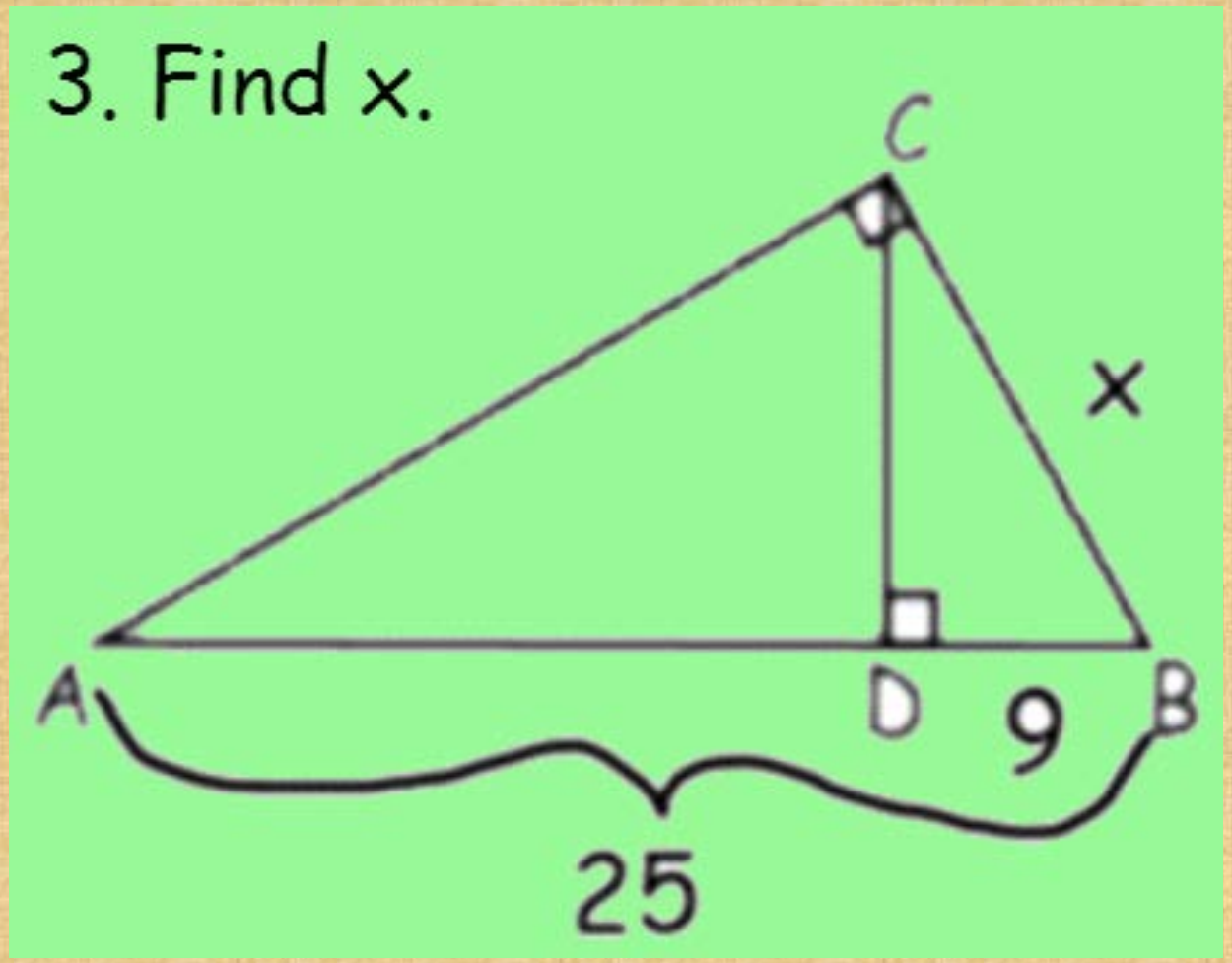
3. Are these two triangles similar? Why or why not?



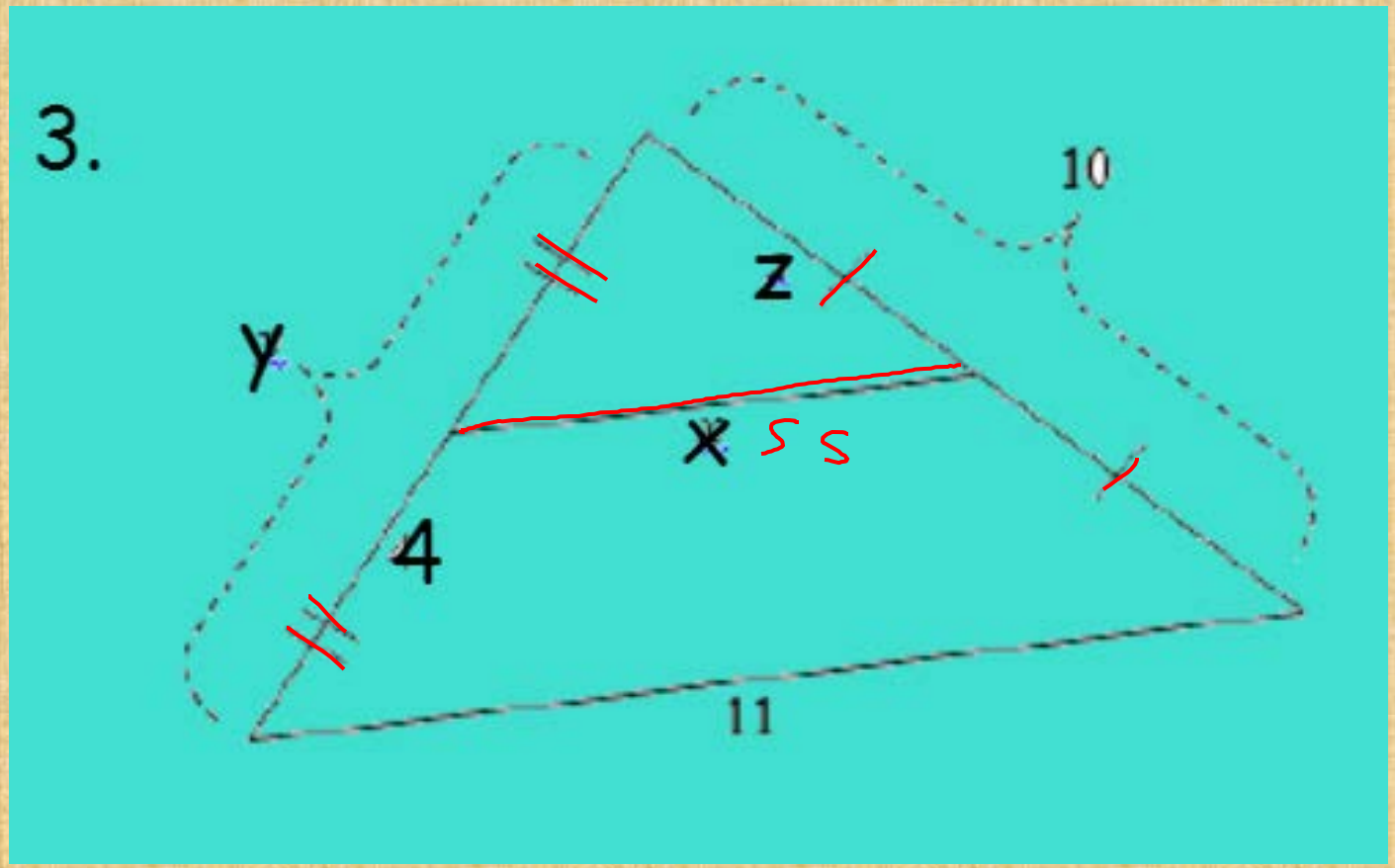


$\frac{20}{4} = \frac{12}{2.4} = \frac{15}{3}$ ✓

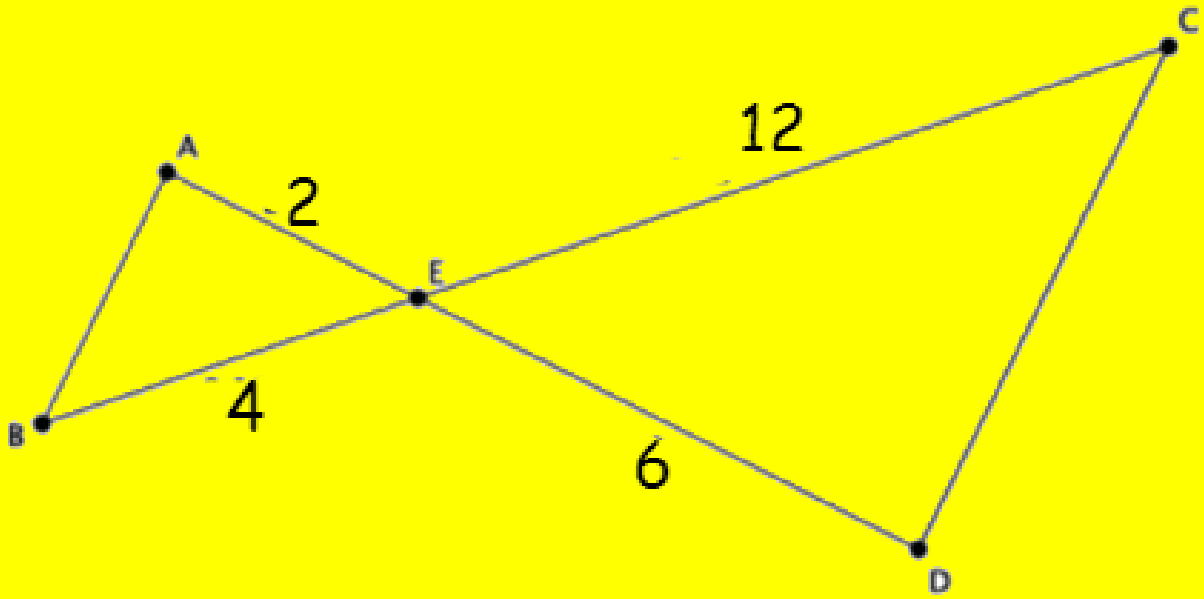
3. Find x.



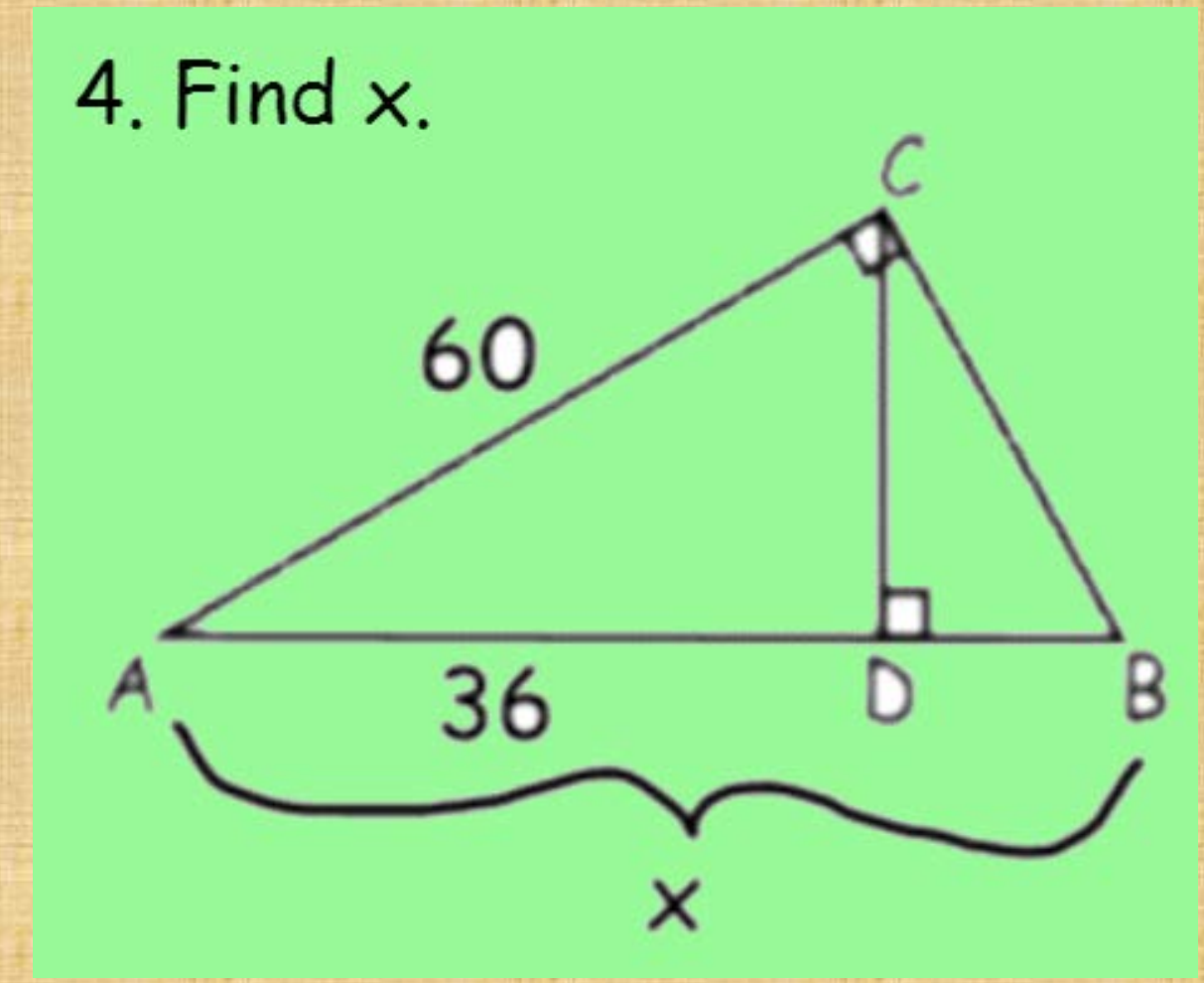
3.



4. Are these two triangles similar? Why or why not?



4. Find x.



4. If the perimeter of a triangle is 80 units, what is the perimeter of triangle formed by connecting the midpoints of each side of the triangle?

5. Ratio of the corresponding sides of two similar triangles is 2:5, what is the ratio of their areas?