Similarity

e unit video, you saw examples of scale drawings and prototypes. Why is it important to create a sca
ing and prototype (or scale model) of a bridge, product, or sculpture design? How do you know that
otype will accurately represent the end product?

: about whether a product is the exact same size as or congruent to its prototype. Are there similariti

h of the following properties of a two-dimensional figure are preserved under dilations?

- [ ] **A.** measure of an angle
- [ ] **B.** length of a line segment
- [ ] **C.** perimeter of the figure
- [ ] **D.** location of the figure
- [ ] **E.** horizontal orientation of line segments
- [ ] **F.** vertical orientation of line segments

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he Right Moves

e discovered that dilations preserve the shape of a figure in the plane. Rigid transformations
shape. What do you think will happen to a figure if you apply a sequence of transformations
ons, rotations, reflections, or dilations?

ber, when a figure can be expressed as the image of another under a series of rigid transfor
re congruent. When a figure can be expressed as the image of another under a series of rig
mations and *dilations*, the figures are said to be *similar*.

Determine whether each statement is true or false? *Circle true or false.*

A. Two triangles are similar if one triangle can be mapped onto the other throu sequence of transformations, including dilations.

True False

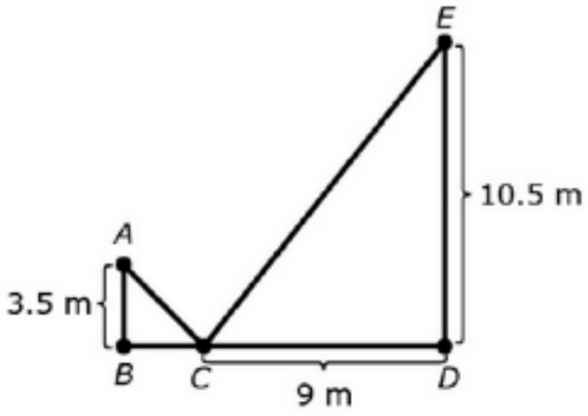
B. Two triangles are similar if two pairs of corresponding angles are equal.

True False

C. Two triangles are similar if they share a common vertex.

True False

In this figure, $\triangle ABC$ is similar to $\triangle EDC$.



What is the length, in meters, of $\overline{BC}$? _____

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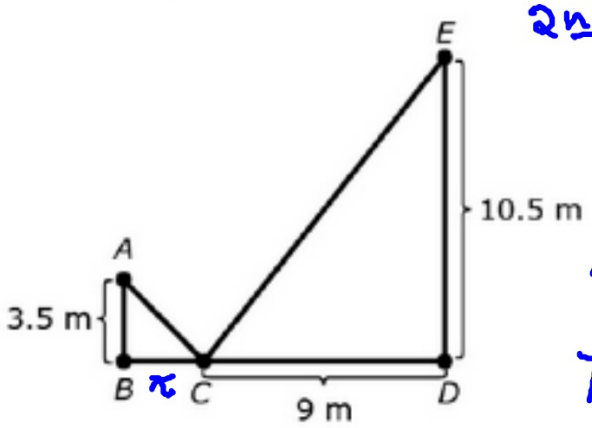
In this figure, $\triangle ABC$ is similar to $\triangle EDC$.

$\frac{AB}{BC} = \frac{ED}{DC}$

$\frac{3.5}{x} \overset{\times 3}{=} \frac{10.5}{9}$ $\div 3$

$x = 3$



2nd way

$\frac{3.5}{x} = \frac{10.5}{9}$

$10.5x = 31.5$

$\frac{10.5x}{10.5} = \frac{31.5}{10.5}$

$x = 3$

What is the length, in meters, of $\overline{BC}$? 3 meters