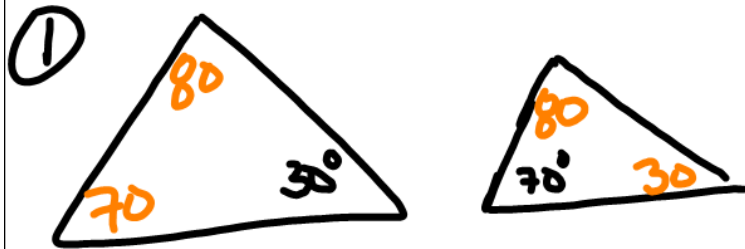


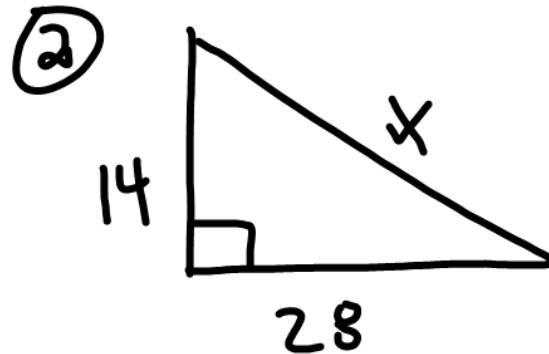
Warm-up

Similar?



Have same \angle 's.
Similar!

Find x (solve)



$$\text{leg}^2 + \text{leg}^2 = \text{hyp}^2$$

$$14^2 + 28^2 = x^2$$

$$196 + 784 = x^2$$

$$\sqrt{980} = \sqrt{x^2}$$

$$\sqrt{49} \sqrt{20} = x$$

$$7\sqrt{20} = x$$

$$\downarrow \sqrt{4} \sqrt{5}$$

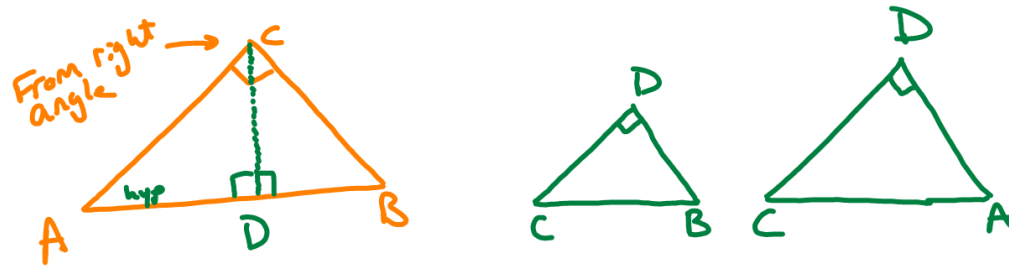
$$7 \cdot 2\sqrt{5} = x$$

4
9
×14
×28
×36
→49
×64
×81
×100

$$\boxed{14\sqrt{5} = x}$$

7.3 Similar Right Triangles

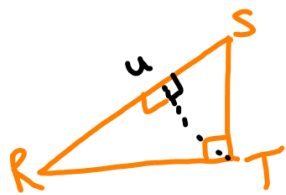
If an altitude is drawn to hypotenuse of a right Δ , the 2 new Δ 's are similar to each other & the original.



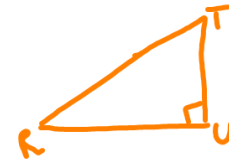
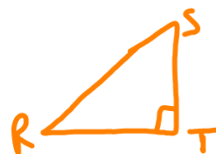
$$\text{So } \Delta CAB \sim \Delta DCB \sim \Delta DCA$$

Example

① Draw altitude \overline{UT} to form 3 similar Δ 's.
Write Similarity Statement. (Draw the Δ 's)

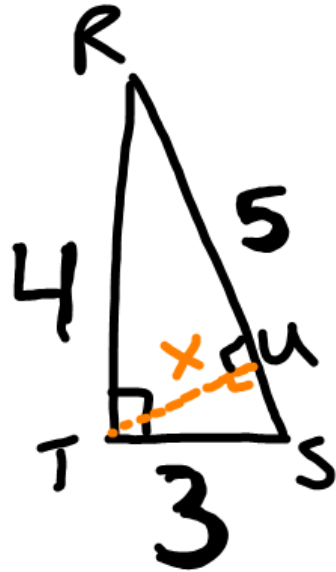


Draw other 2 Δ 's in same position



$$\Delta RST \sim \Delta STU \sim \Delta RTU$$

2 Now Find x



*use ratios to solve

\triangle :



\triangle



$$\frac{4}{5} = \frac{x}{3}$$