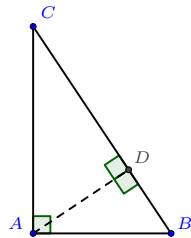


Similar Right Triangles

Proofs.

Problem 1 *Adapted from Ohio's 2017 Geometry released item 17.*

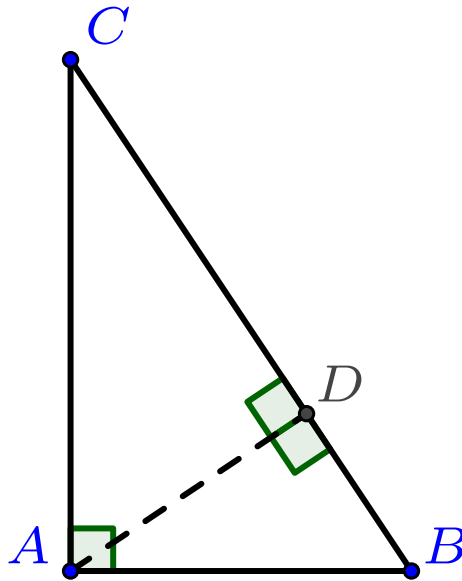


Complete the following proof that $\triangle DAC$ is similar to $\triangle DBA$:

- (a) $\triangle ABC \sim \triangle \boxed{DBA}$ by (AA similarity ✓/ CPCTC/ right triangle similarity) because they share $\angle B$ and they each have a right angle.
- (b) $\triangle ABC \sim \triangle DAC$ for the same reason because they share ($\angle A$ / $\angle B$ / $\angle C$ ✓) and they each have a right angle.
- (c) $\triangle DAC \sim \triangle \boxed{DBA}$ because they are both similar to $\triangle ABC$.

Problem 2 *A different proof, also adapted from Ohio's 2017 Geometry released item 17.*

Learning outcomes:
 Author(s): Brad Findell



Complete the following proof that $\triangle DAC$ is similar to $\triangle DBA$:

- (a) $\angle B$ and $\angle BAD$ are complementary because they are acute angles in a right triangle.
- (b) $\angle DAC$ and $\angle BAD$ are complementary because they are adjacent angles that form $\angle BAC$, which is right.
- (c) $\angle B \cong \angle DAC$ because they are both complementary to $\angle BAD$.
- (d) $\triangle DAC \sim \triangle \boxed{DBA}$ by (AA similarity \checkmark / CPCTC/ right triangle similarity) because $\angle B \cong \angle DAC$ and they each have a right angle.