

Name: _____

MATH 307

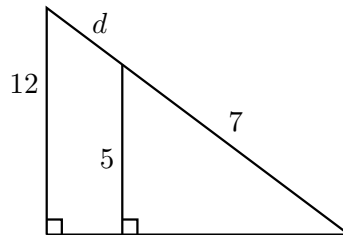
Spring 2023

HW 14: Due 04/26

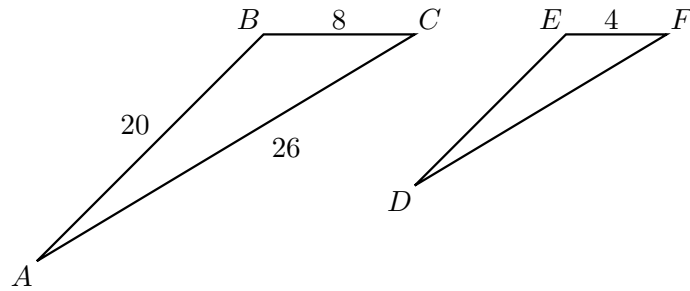
*“Geometry is the science of correct
reasoning on incorrect figures”*

– George Pólya

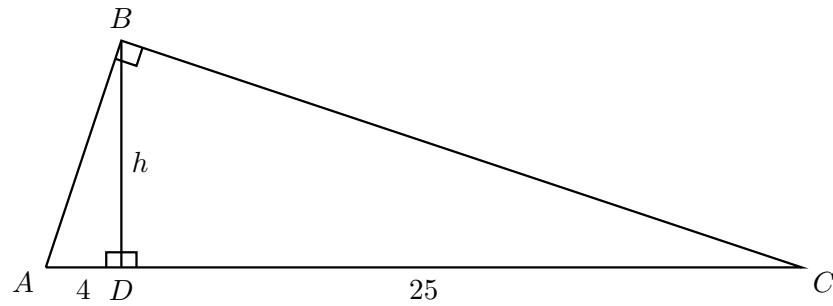
Problem 1. (10pt) Consider the right triangles shown below. Find the value of d .



Problem 2. (10pt) For the triangles $\triangle ABC$ and $\triangle DEF$, shown below, assume that $\triangle ABC \sim \triangle DEF$. Find the missing sides of $\triangle DEF$.



Problem 3. (10pt) Consider the triangles shown below.



- (a) Explain why $\triangle ADB \sim \triangle ABC$ and $\triangle BDC \sim \triangle ABC$.
- (b) Does (a) imply that $\triangle ADB \sim \triangle BDC$? Explain.
- (c) Find h .