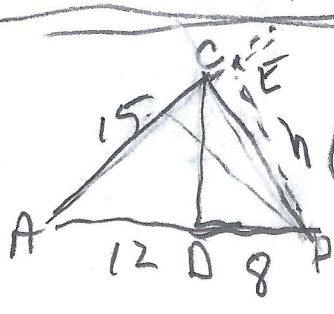
Geometry Homework

Larson § 5.3 # 34, 35

H0319

#34



(a) $CD = \sqrt{15^2 - 12^2} = 9$

(b) Area $\triangle ABC = \frac{1}{2}bh$

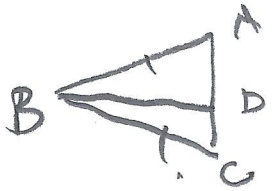
$= \frac{1}{2} \cdot 20 \cdot 9 = 90$

(c) Let $h = BE$, $b = 15$

Then $A = \frac{1}{2}bh$

So $90 = \frac{1}{2}(15)h \Rightarrow h = \frac{180}{15} = 12$

#35



$\overline{BD}$ is a median

Show $\overline{BD}$ is an altitude.

We must show $BD \perp AC$.

Claim	Reason
$\overline{BD} \cong \overline{BD}$	Reflexive Property
$\overline{BC} \cong \overline{AB}$	Given
D is midpoint AC	Given, def of median
$\overline{AD} \cong \overline{CD}$	Def of midpoint
$\triangle ABD \cong \triangle CBD$	SSS
$\angle ADB \cong \angle CDB$	CPCTC
$\angle ADB$, $\angle CDB$ are right	Congruent Linear Pair