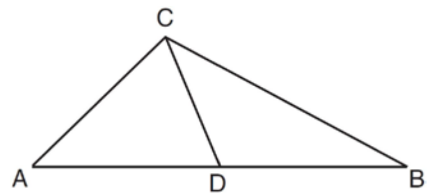
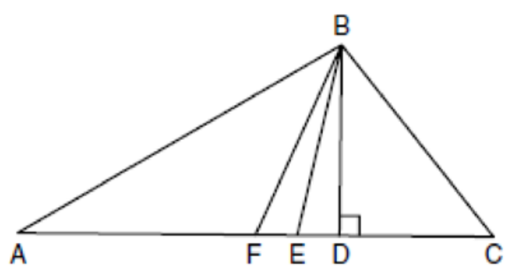
G.CO.C.10: Medians, Altitudes and Bisectors

1 As shown in the diagram below, $\overline{CD}$ is a median of $\triangle ABC$.



Which statement is *always* true?
1) $\overline{AD} \cong \overline{DB}$
2) $\overline{AC} \cong \overline{AD}$
3) $\angle ACD \cong \angle CDB$
4) $\angle BCD \cong \angle ACD$

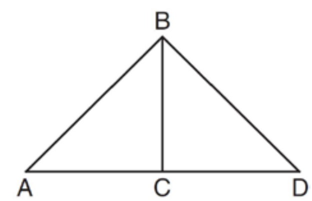
2 Given $\triangle ABC$ with base $\overline{AFEDC}$, median $\overline{BF}$, altitude $\overline{BD}$, and $\overline{BE}$ bisects $\angle ABC$, which conclusion is valid?



1) $\angle FAB \cong \angle ABF$
2) $\angle ABF \cong \angle CBD$
3) $\overline{CE} \cong \overline{EA}$
4) $\overline{CF} \cong \overline{FA}$

3 In $\triangle ABC$, D is a point on $\overline{AC}$ such that $\overline{BD}$ is a median. Which statement must be true?
1) $\triangle ABD \cong \triangle CBD$
2) $\angle ABD \cong \angle CBD$
3) $\overline{AD} \cong \overline{CD}$
4) $\overline{BD} \perp \overline{AC}$

4 Given: $\triangle ABD$, $\overline{BC}$ is the perpendicular bisector of $\overline{AD}$



Which statement can *not* always be proven?
1) $\overline{AC} \cong \overline{DC}$
2) $\overline{BC} \cong \overline{CD}$
3) $\angle ACB \cong \angle DCB$
4) $\triangle ABC \cong \triangle DBC$

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Answer Section

1 ANS: 1 REF: 011303ge

2 ANS: 4
Median $\overline{BF}$ bisects $\overline{AC}$ so that $\overline{CF} \cong \overline{FA}$.

REF: fall0810ge

3 ANS: 3 REF: 080608b

4 ANS: 2 REF: 081301ge