axiom B-3: satisfied because B-3 is already satisfied in the euclidean plane.

#3: This statement is clearly a consequence of the Angle-Side-Angle criterion.

So let's prove the A-S-A criterion (saying that $\Delta ABC \cong \Delta DEF$ if $\measuredangle A \cong \measuredangle D$, $\measuredangle C \cong \measuredangle F$ and $AC \cong DF$):

Proof of A-S-A criterion:

1/ By axiom C-1, there is a unique pt B' on ray $\overrightarrow{DE}$ s.t. $DB' \cong AB$

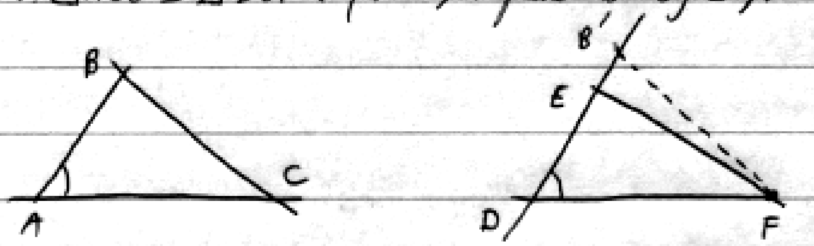
2/ Thus $\Delta ABC \cong \Delta DB'F$ (S-A-S criterion).

3/ Then $\measuredangle DFB' \cong \measuredangle C$ (consequence of $\Delta ABC \cong \Delta DB'F$).

4/ From C-4, we know that ray $\overrightarrow{FB'}$ = ray $\overrightarrow{FE}$ (because the angles at F are both equal to $\measuredangle C$).

5/ Therefore $B' = E$ (unique pt of intersection of $\overleftrightarrow{DE}$ and $\overleftrightarrow{FE} = \overleftrightarrow{FB'}$).

6/ Conclusion: $\Delta ABC \cong \Delta DEF$. (in 2) replace B' by E).



#4: We know $\measuredangle ABC \cong \measuredangle DEF$, we want to prove $\measuredangle CBG \cong \measuredangle FEH$.

1/ We can choose D, F, H so that $AB \cong DE$, $CB \cong FE$, $BG \cong EH$ (by axiom C-1).

2/ Thus $\Delta ABC \cong \Delta DEF$ (S-A-S axiom).

3/ Thus $AC \cong DF$ and $\measuredangle A \cong \measuredangle D$

4/ Then $AG \cong DH$ (axiom C-3).

5/ So $\Delta ACG \cong \Delta DFH$ (S-A-S axiom with angle $\measuredangle A$ and $\measuredangle D$)

6/ Thus $CG \cong FH$, $\measuredangle G \cong \measuredangle H$

7/ Then $\Delta CBG \cong \Delta FEH$ (S-A-S again)

8/ Therefore $\measuredangle CBG \cong \measuredangle FEH$.