

File Home Insert Page Layout References Mailings Review View MathType

Calibri 20 A A Aa

B I U abc x<sub>2</sub> x<sup>2</sup> A ab A

Paragraph

Styles

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## 3.2. Honors Geometry

DATE: 11/8

Target 3B. Understand and apply the theorems and postulates sufficient to prove triangles congruent

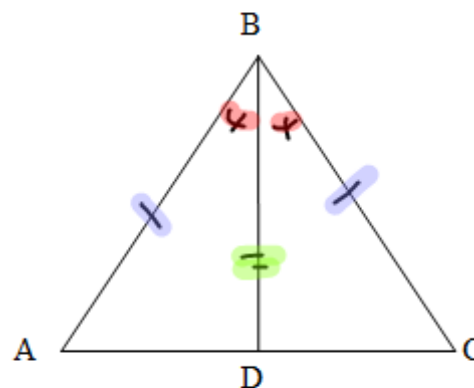
Write a two-column proof.

Given:  $AB \cong BC$

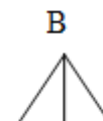
$\angle ABD \cong \angle CBD$

Prove:  $\triangle ABD \cong \triangle CBD$

Statement	Reason
① $\overline{AB} \cong \overline{BC}$	① Given
② $\angle ABD \cong \angle CBD$	② Given
③ $\overline{BD} \cong \overline{BD}$	③ Reflexive Property
④ $\triangle ABD \cong \triangle CBD$	④ SAS (step 1,2,3)



Given:  $BD \perp AC$



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B I U abc x<sub>2</sub> x<sup>2</sup> ab A

Paragraph

AaBbCcI AaBbCcI AaBbCc AaBbCc

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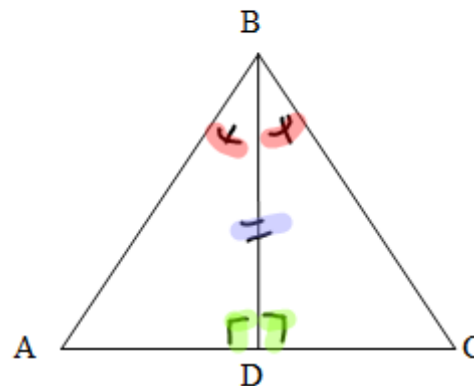
Find Replace Select Editing

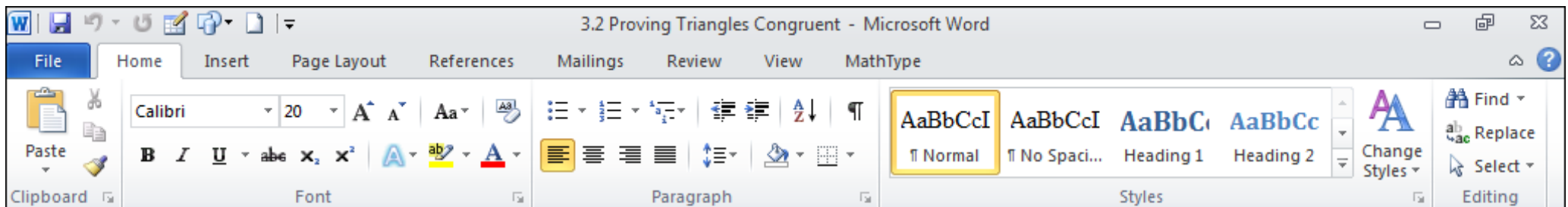
Given:  $BD \perp AC$

$$\angle ABD \cong \angle CBD$$

Prove:  $\triangle ABD \cong \triangle CBD$

Statement	Reason
① $\overline{BD} \perp \overline{AC}$	① Given
② $\angle ADB, \angle CDB$ rt. $\angle$	② If 2 seg $\perp$ , then rt. $\angle$ s.
③ $\angle ADB \cong \angle CDB$	③ Rt. $\angle$ 's are $\cong$
④ $\angle ABD \cong \angle CBD$	④ Given
⑤ $\overline{BD} \cong \overline{BD}$	⑤ Reflexive Property
⑥ $\triangle ABD \cong \triangle CBD$	⑥ <b>ASA</b> (Step 4, 5, 3)





Given:  $BD$  bisects  $AC$

$$AB \cong CB$$

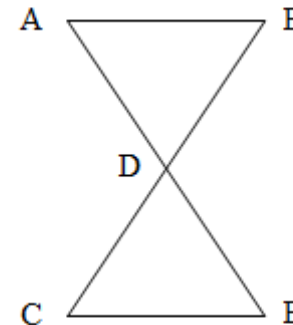
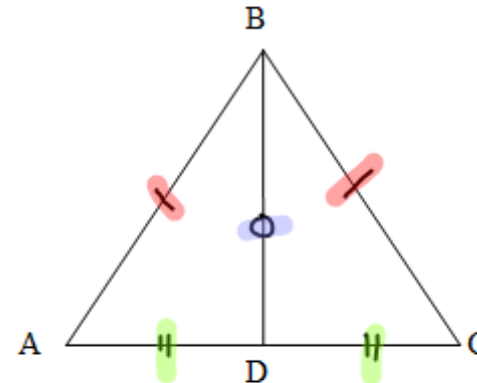
Prove:  $\triangle ABD \cong \triangle CBD$

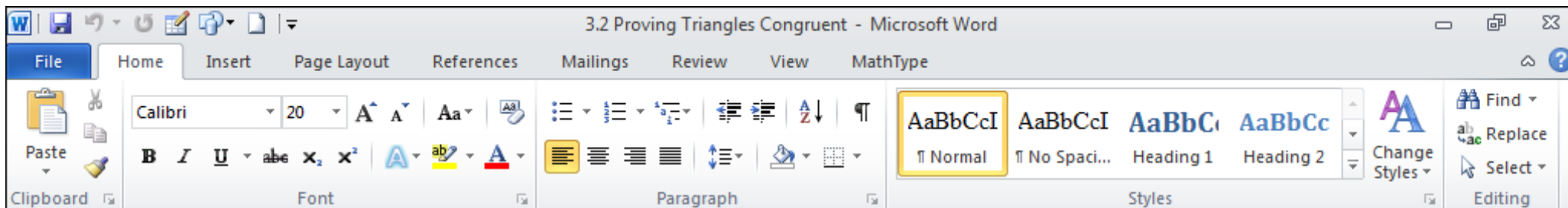
Statement	Reason
① $\overline{BD}$ bis $\overline{AC}$	① Given
② $\overline{AD} \cong \overline{CD}$	② If a seg. bis. another seg. then it $\div$ it into 2 $\cong$ seg.
③ $\overline{AB} \cong \overline{CB}$	③ Given
④ $\overline{BD} \cong \overline{BD}$	④ Reflexive property.
⑤ $\triangle ABD \cong \triangle CBD$	⑤ <b>SSS</b> (step 3,4,2)

Given:  $ED \cong CD$

$$AD \cong BD$$

Prove:  $\triangle ADE \cong \triangle BDC$





Given:  $ED \cong CD$

$AD \cong BD$

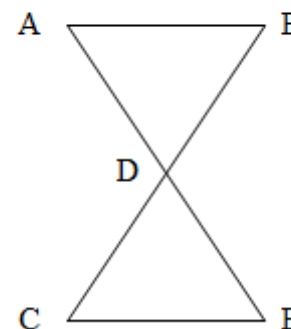
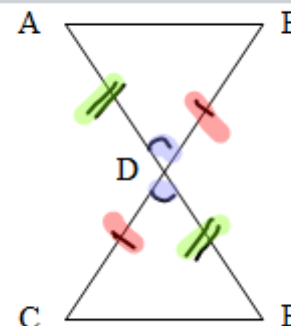
Prove:  $\triangle ADE \cong \triangle BDC$

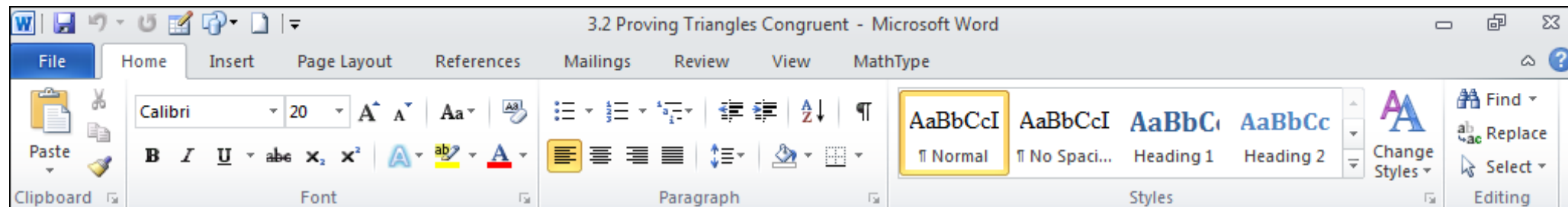
Statement	Reason
① $\overline{ED} \cong \overline{CD}$	① Given
② $\overline{AD} \cong \overline{BD}$	② Given
③ $\angle ADE \cong \angle BDC$	③ Vertical $\angle$ 's are $\cong$ .
④ $\triangle ADE \cong \triangle BDC$	④ SAS (step 1, 3, 2)

Given: AD bisects CE

$AD \cong BD$

Prove:  $\triangle ADE \cong \triangle BDC$





C  $\longleftrightarrow$  B

Given: AD bisects CE

$$AD \cong BD$$

Prove:  $\triangle ADE \cong \triangle BDC$

statement	Reason
① $\overline{AD}$ bis. $\overline{CE}$	① Given
② $\overline{CD} \cong \overline{ED}$	② If a seg. bis another seg., then it $\div$ into 2 $\cong$ seg.
③ $\overline{AD} \cong \overline{BD}$	③ Given
④ $\angle ADE \cong \angle BDC$	④ Vertical $\angle$ s are $\cong$
⑤ $\triangle ADE \cong \triangle BDC$	⑤ SAS (step 2, 4, 3)

