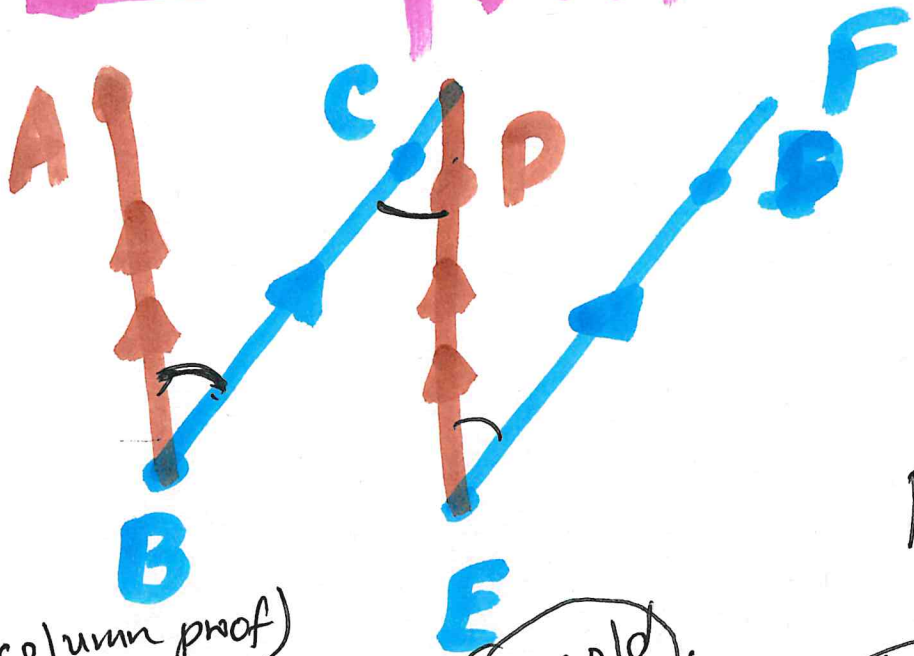


8/31 Lesson 10: Proofs



Given \triangleright
 $\overline{AB} \parallel \overline{DE}$;
 $\overline{BC} \parallel \overline{EF}$

Prove \triangleright
 $m\angle B \cong m\angle E$

2 column proof)

Statement

10 yr. old
Bob

Reason

Mathematician
Gunter

- 1) $\overline{AB} \parallel \overline{DE}$ & $\overline{BC} \parallel \overline{EF}$
- 2) $\angle B \cong \angle BCD$
- 3) $\angle BCD \cong \angle E$
- 4) $\angle B \cong \angle E$

- ① Given
- ② alt. int. \angle 's
- ③ alt int \angle 's
- ④ Transitive property

Transitive property:

ex 1 $\angle A \cong \angle B$; $\angle B \cong \angle C$

$\rightarrow \therefore \angle A \cong \angle C$

therefore

Must be same

ex 2

$\overline{AB} \cong \overline{BC}$; $\overline{BC} \cong \overline{CD}$

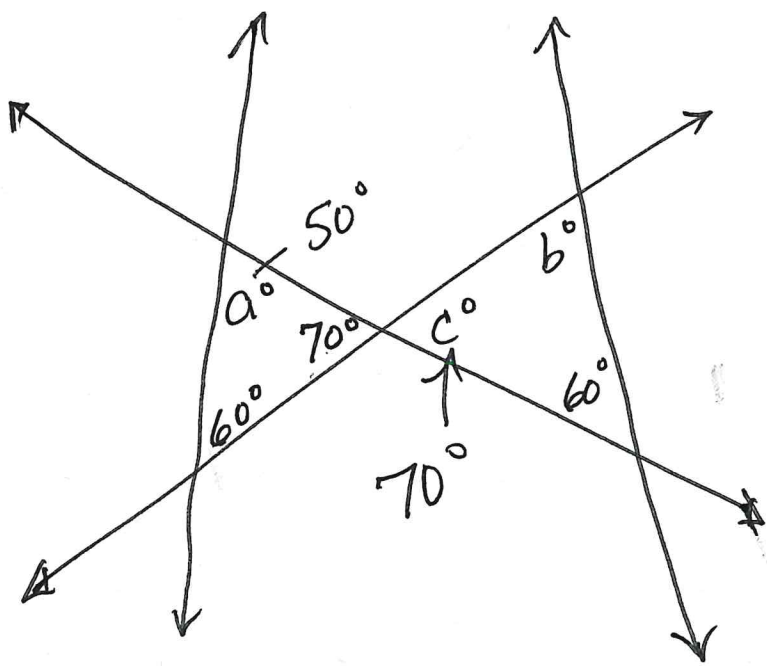
$\overline{AB} \cong \overline{CD}$

ex 3

$\overleftrightarrow{AB} \cong \overleftrightarrow{BC}$; $\overleftrightarrow{DE} \cong \overleftrightarrow{BC}$

$\overleftrightarrow{AB} \cong \overleftrightarrow{DE}$

2.)



Given \blacktriangleright See visual
Find $\blacktriangleright a^\circ, b^\circ, c^\circ$

(2 column Proof)

Statements 10 yr. old Henry

Reasons Mathematician Albert

① See visual

① Given

② $180 - (60 + 70) = 50^\circ$

② $\Delta = 180^\circ$

③ $c = 70^\circ$

③ Vertical \angle 's

④ $180 - (60 + 70) = 50^\circ$

④ $\Delta = 180^\circ$