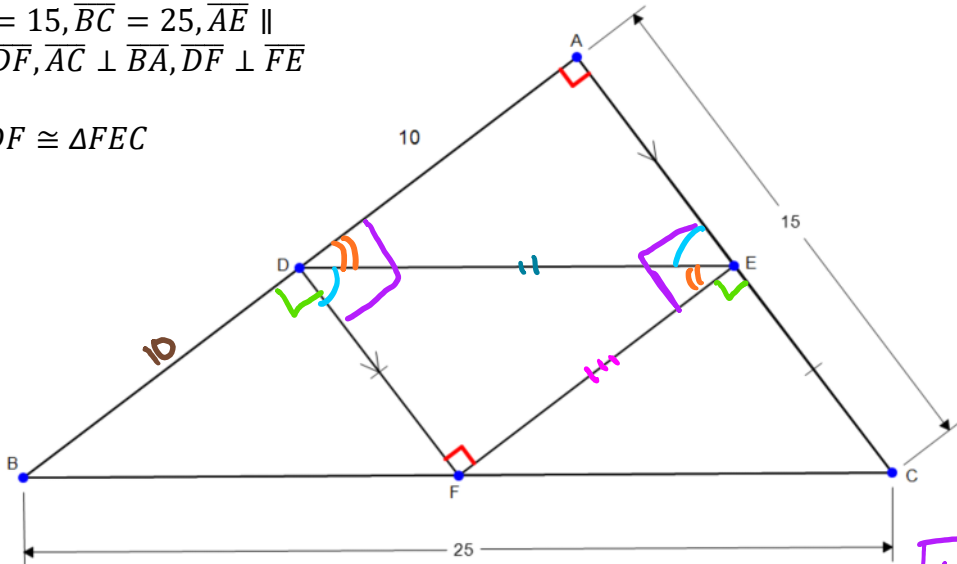


Proof Practice

Friday, November 15, 2019 9:28 AM

Given: $\overline{AC} = 15, \overline{BC} = 25, \overline{AE} \parallel \overline{DF}, \overline{EC} \cong \overline{DF}, \overline{AC} \perp \overline{BA}, \overline{DF} \perp \overline{FE}$

Prove: $\triangle BDF \cong \triangle FEC$



$\overline{AC} = 15$
 $\overline{BC} = 25$
 $\overline{AE} \parallel \overline{DF}$
 $\overline{AC} \perp \overline{BA}$
 $\overline{DF} \perp \overline{FE}$
 $\overline{EC} \cong \overline{DF}$
 Given

$\angle AED \cong \angle FDE$
Alt. Int. \angle 's

$\overline{DE} \cong \overline{DE}$
Reflexive

$\angle ADF = 90^\circ$
 $\angle AEF = 90^\circ$
 SSI to $\angle DFE$ d $\angle DAE$

$\angle ADE \cong \angle FED$
Complimentary to same angle

$\triangle DAE \cong \triangle FED$
ASA

$\angle FEC = 90^\circ, \angle BDF = 90^\circ$
 Linear Pair w/ $\angle AEF, \angle ADF$

$\overline{BD} = 10$
Seg. Add.

$\overline{BA} = 20$
Pyth. Th.

$\triangle DFE \cong \triangle DCF$
SAS

$\overline{FE} \cong \overline{FE}$
Reflexive

$\triangle BDF \cong \triangle DAE$
SAS

$\triangle BDF \cong \triangle FEC$
Trans. POC