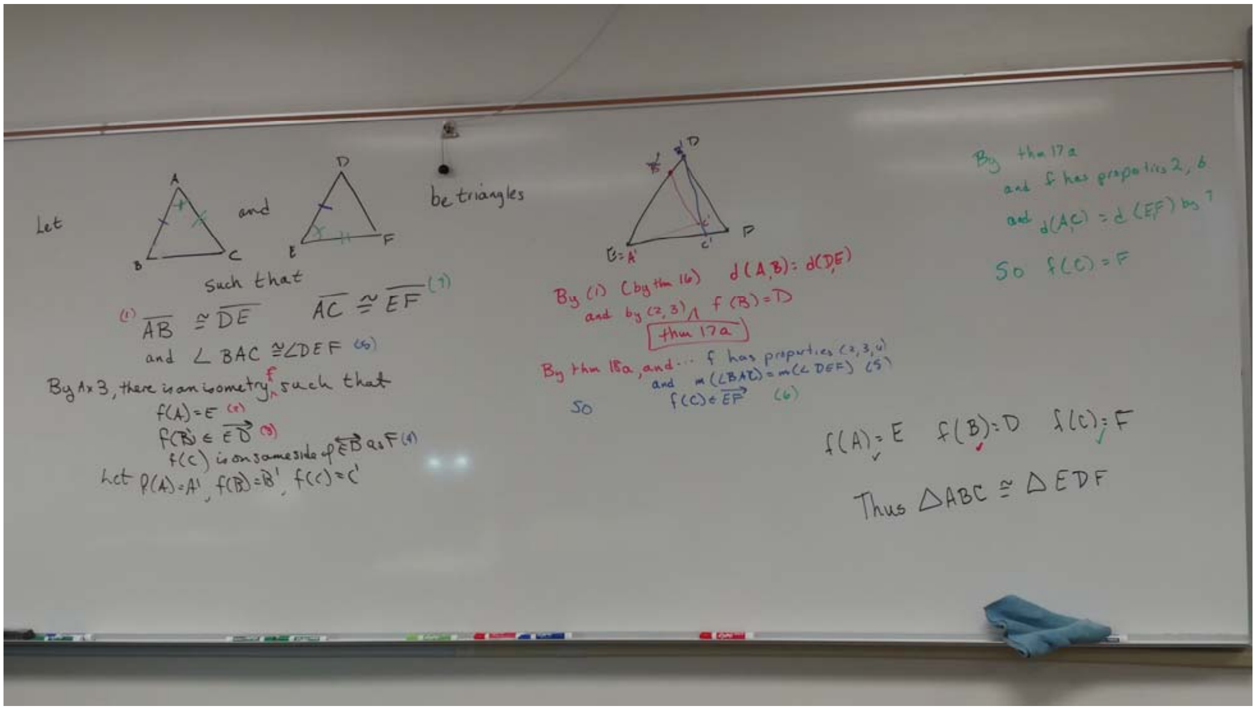
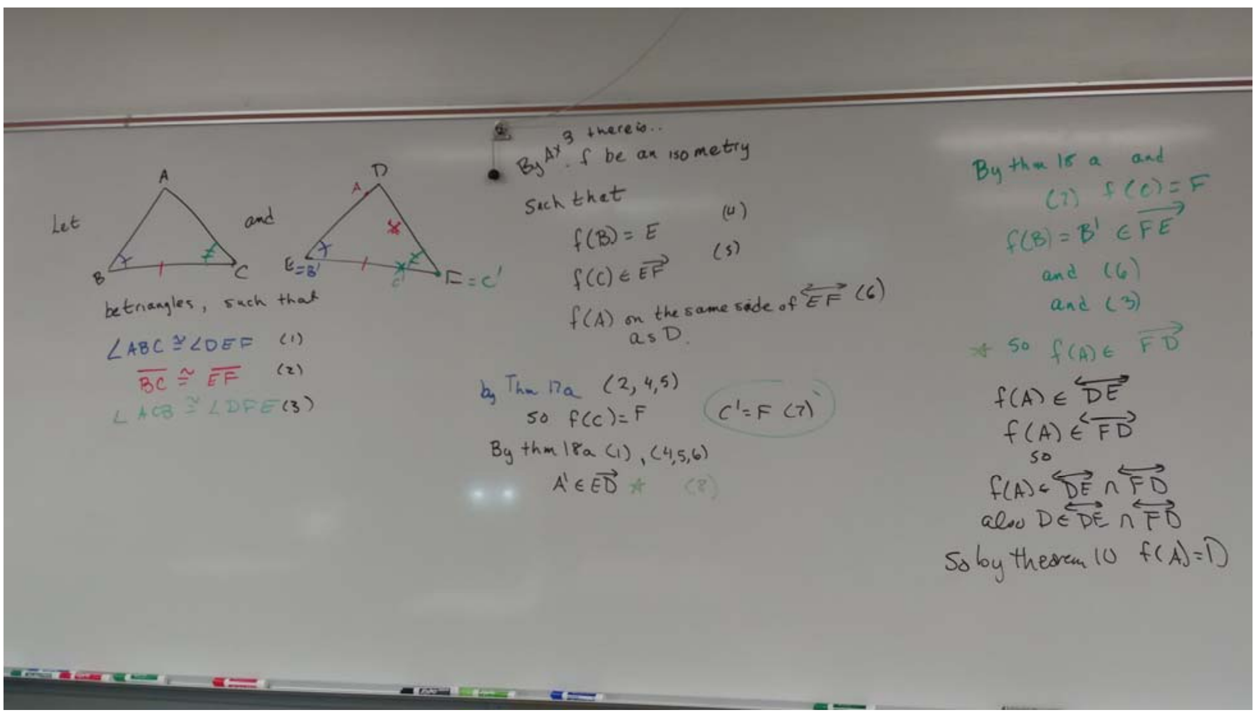


Let
and
be triangles
such that
(1) AB ≅ DE
AC ≅ EF (7)
and ∠ BAC ≅ ∠DEF (6)
By Ax 3, there is an isometry f such that
f(A) = E (2)
f(B) ∈ ED (3)
f(C) is on same side of ED as F (4)
Let f(A) = A', f(B) = B', f(C) = C'
By (1) (by thm 16) d(A,B) = d(D,E)
and by (2, 3) f(B) = D
thm 17a
By thm 18a, and ... f has properties (2, 3, 4)
and m(∠BAC) = m(∠DEF) (5)
so
f(C) ∈ EF (6)
By thm 17a
and f has properties 2, 6
and d(AC) = d(EF) by 7
So f(C) = F
f(A) = E f(B) = D f(C) = F
Thus △ABC ≅ △EDF



Let
and
be triangles, such that
∠ABC ≅ ∠DEF (1)
BC ≅ EF (2)
∠ACB ≅ ∠DFE (3)
By Ax 3 there is.. f be an isometry
Such that (4)
f(B) = E
f(C) ∈ EF (5)
f(A) on the same side of EF (6)
as D.
by Thm 17a (2, 4, 5)
so f(C) = F
C' = F (7)
By thm 18a (1), (4,5,6)
A' ∈ ED (8)
By thm 18 a and
(7) f(C) = F
f(B) = B' ∈ FE
and (6)
and (3)
so f(A) ∈ FD
f(A) ∈ DE
f(A) ∈ FD
so
f(A) ∈ DE ∩ FD
also D ∈ DE ∩ FD
So by theorem 10 f(A) = D