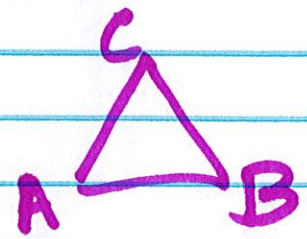
Exercises 2.3 pg 52 1-28-15

① The two lines Referred to in Reason 5 on Page 50 (T-2) is $\overline{AC}$ & $\overline{CB}$



② $\angle C = \angle F$ $\quad \overline{CA} = \overline{FD}$

✓ $\angle A = \angle D$ $\quad \overline{CB} = \overline{FE}$

✓ $\angle B = \angle E$ $\quad \overline{DE} = \overline{AB}$ ✓

~~(3) AM = BM and CM = DM~~

~~(2)~~

~~Given~~

(3) Given: CA = CB and CD = CE

Prove: $\triangle ADC \cong \triangle BEC$

Proof:

Statements	Reason
1. CA = CB, CD = CE	1. Given
2. $\angle ACD = \angle BCE$ $\angle 1 = \angle 2$	2. When 2 lines intersect, the vertical angles formed are equal.
3. $\triangle ADC \cong \triangle BEC$	3. SAS

(a) $\angle D = \angle E$

(b) $\overline{AD} = \overline{BE}$, CPCTE

4. Given: $CA = CB$ and $CD = CE$

Prove: $\triangle ABD \cong \triangle BEA$

$\angle ABD = \angle BAE$

Statements	Reasons
1. $CA = CB$, $CD = CE$	1. Given
2. $\angle 1$ & $\angle 2$	2. Vertical angles are equal
3. $\triangle ADC \cong \triangle BEC$	3. SAS
4. $AD = BE$, $\angle D = \angle E$	4. C.P.C.T.E.
5. $AC + CE = BC + CD$	5. Axiom 2 - addition axiom
6. $AC + CE = AE$, $BC + CD = BD$	Axiom 6 - The whole sum is equal to the sum of its part

7. $AE = BD$	7. substitution axiom
8. $\triangle ADB = \triangle BEA$	8. SAS
9. $\angle ABD = \angle BAE$	9. CPCTE