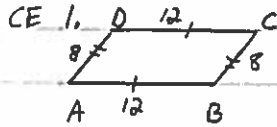


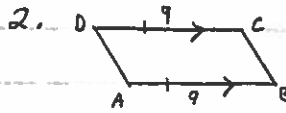
A#41

p. 173-175 CE #1-11 and WE #6, 14-15, 17 [2 column Proofs]

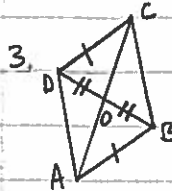
Key



- ① $\overline{AB} \cong \overline{DC}, \overline{AD} \cong \overline{BC}$ [Def. of \cong seg.]
- ② $\square ABCD$ [Both pairs of opp. sides $\cong \rightarrow \square$]

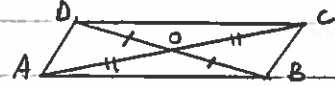


- ① $\overline{AB} \cong \overline{DC}$ [Def. of \cong seg.]
- ② $\square ABCD$ [1 pair of opp. sides \cong and $\parallel \rightarrow \square$]

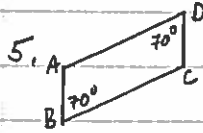


- ① O is the midpt of \overline{DB} [Def. of midpt]
- ② \overline{AC} bisects \overline{DB} [Def. of seg. bisector]

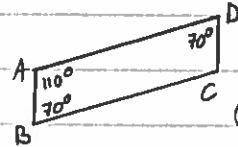
Not enough Info



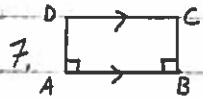
- ① O is the midpt of $\overline{AC} + \overline{BD}$ [Def. of midpt]
- ② $\overline{AC} + \overline{BD}$ bisect each other [Def. of seg. bisector]
- ③ $\square ABCD$ [Diagonals bisect each other $\rightarrow \square$]



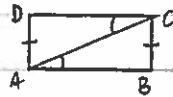
- ① $\angle B \cong \angle D$ [Def. of \cong \angle s]
- Not enough Info



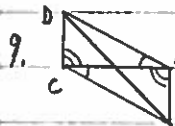
- ① $m\angle C = 110^\circ$ [Quad. sum thm]
- ② $\angle A \cong \angle C, \angle B \cong \angle D$ [Def. of \cong \angle s]
- ③ $\square ABCD$ [Both pairs of opp. \angle s $\cong \rightarrow \square$]



- ① $\overline{AD} \parallel \overline{BC}$ [In a plane, 2 lines \perp to same line are \parallel .]
- ② $\square ABCD$ [Def. of \square]

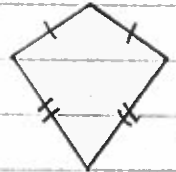


- ① $\overline{AB} \parallel \overline{CD}$ [Alt. Int. \angle s Conv.]
- Not enough Info



- ① $\overline{AB} \parallel \overline{CD}, \overline{AD} \parallel \overline{BC}$ [Alt. Int. \angle s Conv.]
- ② $\square ABCD$ [Def. of \square]

10. Quad. with 2 pairs of \cong sides but not a \square .

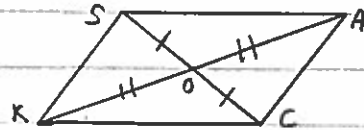


11. One pair of \cong sides and one pair of \parallel sides but not a \square .



WE 6. Given: $\triangle Sok \cong \triangle CoA$

Prove: $\square SACK$



Many Possible Proofs!

- | Statements | Reasons |
|---|--|
| 1. $\triangle Sok \cong \triangle CoA$ | 1. Given |
| 2. $\overline{OS} \cong \overline{OC}, \overline{OK} \cong \overline{OA}$ | 2. CPCTC |
| 3. O is the midpt of \overline{AK} and \overline{CS} | 3. Def. of midpt |
| 4. \overline{SC} and \overline{KA} bisect each other | 4. Def. of Seg. bisector |
| 5. $\square SACK$ | 5. Diagonals bisect each other $\rightarrow \square$ |

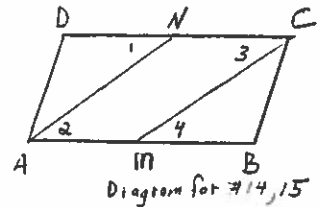
A #41 continued

p. 175 WE #14-15, 17

Key

14. Given: $\square ABCD$; $M+N$ are midpoints of \overline{AB} & \overline{DC}

Prove: $\square AMCN$



Statements	Reasons
1. $\square ABCD$; midpts $M+N$	1. Given
2. $\overline{NC} \parallel \overline{AM}$	2. Def. of \square
3. $\overline{AB} \cong \overline{DC}$	3. Opp. sides of a \square are \cong
4. $AB = DC$	4. Def. of \cong seg.
5. $NC = \frac{1}{2} DC$, $AM = \frac{1}{2} AB$	5. midpoint Thm
6. $NC = \frac{1}{2} AB$	6. Subst. Prop. of $=$ ($4 \rightarrow 5$)
7. $\overline{NC} \cong \overline{AM}$	7. Def. of \cong seg.
8. $\square AMCN$	8. One pair of opp sides \cong and $\parallel \rightarrow \square$

15. Given: $\square ABCD$; \overline{AN} bisects $\angle DAB$, \overline{CM} bisects $\angle BCD$

Prove: $\square AMCN$

See diagram above.

Statements	Reasons
1. $\square ABCD$; \overline{AN} bisects $\angle DAB$, \overline{CM} bisects $\angle BCD$	1. Given
2. $\overline{NC} \parallel \overline{AM}$	2. Def. of \square
3. $\angle DAB \cong \angle BCD$	3. opp. \angle s of a \square are \cong
4. $\angle 1 \cong \angle 2$, $\angle 3 \cong \angle 4$	4. Alt. Int. \angle s Thm
5. $m\angle DAB = m\angle BCD$	5. Def. of $\cong \angle$ s
6. $m\angle 2 = \frac{1}{2} m\angle DAB$, $m\angle 3 = \frac{1}{2} m\angle BCD$	6. \angle bisector Thm #1
7. $m\angle 2 = \frac{1}{2} m\angle BCD$	7. Subst. Prop. of $=$ ($5 \rightarrow 6$)
8. $\angle 2 \cong \angle 3$	8. Def. of $\cong \angle$ s
9. $\angle 2 \cong \angle 4$	9. Trans. Prop. of \cong
10. $\overline{AN} \parallel \overline{MC}$	10. Corr. \angle s converse
11. $\square AMCN$	11. Def. of \square

17. Given: $\square ABCD$; $DE = BF$

Prove: $\square AFCE$

Statement	Reasons
1. $\square ABCD$; $DE = BF$	1. Given
2. $\overline{DE} \cong \overline{BF}$	2. Def. of \cong seg
3. $\overline{DC} \cong \overline{AB}$, $\overline{AD} \cong \overline{BC}$	3. opp. sides of a \square are \cong
4. $\overline{AD} \parallel \overline{BC}$, $\overline{DC} \parallel \overline{AB}$	4. Def. of \square
5. $\angle 1 \cong \angle 2$, $\angle 3 \cong \angle 4$	5. Alt. Int. \angle s Thm
6. $\triangle ADE \cong \triangle CBF$, $\triangle ABF \cong \triangle CDE$	6. SAS \cong Post.
7. $\overline{AE} \cong \overline{CF}$, $\overline{AF} \cong \overline{CE}$	7. CPCTC
8. $\square AFCE$	8. Both Pairs of opp. side $\cong \rightarrow \square$

