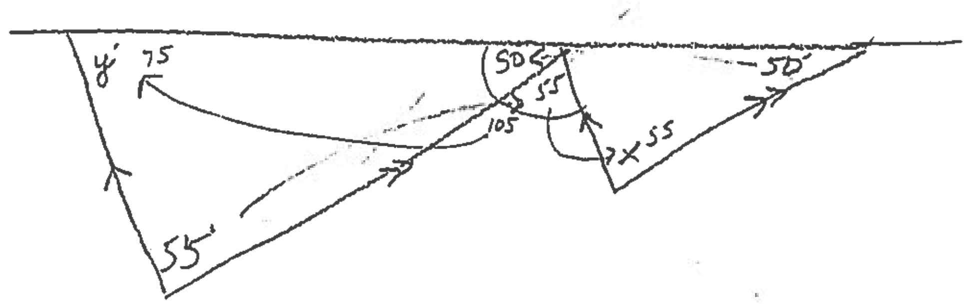
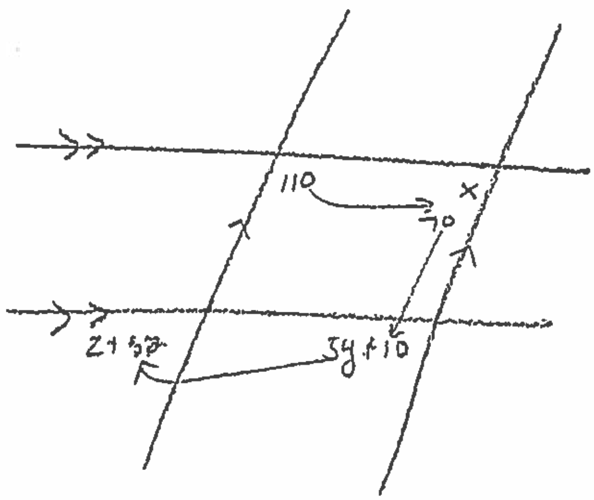
3.2

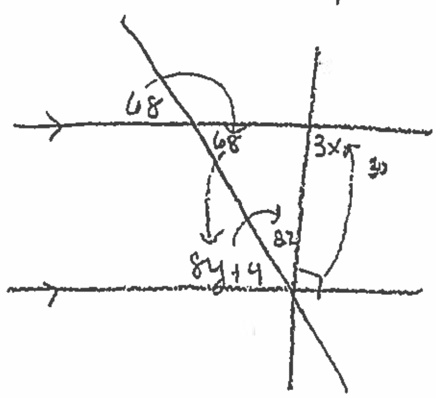
(12)



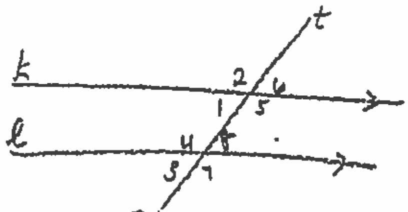
(15)



(16)

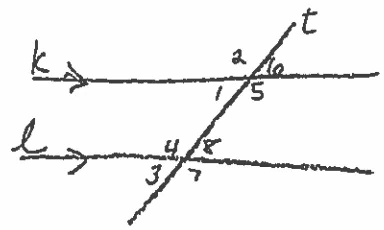


(20) Given: $k \parallel l$
Prove: $\angle 2 \cong \angle 7$



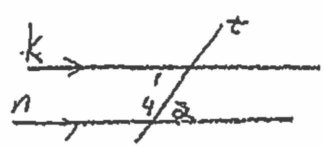
Statements	Reasons
1. $k \parallel l$	1. Given
2. $\angle 2 \cong \angle 4$	2. $\parallel$ lines → corr. $\angle^s \cong$
3. $\angle 4 \cong \angle 7$	3. Vert. $\angle^s \cong$
4. $\angle 2 \cong \angle 7$	4. Transitive

(21) Given: $k \parallel l$
Prove: $\angle 1$ is supp. to $\angle 7$



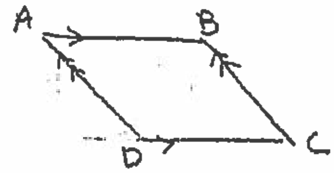
1. $k \parallel l$	1. Given
2. $\angle 1$ is supp. to $\angle 4$	2. $\parallel$ lines → S.S. int. supp
3. $m\angle 1 + m\angle 4 = 180$	3. def. supp
4. $\angle 4 \cong \angle 7$	4. Vert. $\angle \cong$
5. $m\angle 4 = m\angle 7$	5. def. $\cong$
6. $m\angle 1 + m\angle 7 = 180$	6. subst.
7. $\angle 1$ is supp. to $\angle 7$	7. def. supp.

(22) Given: $k \parallel n$; transv. t cuts l + n
Prove: $\angle 1$ is supp. to $\angle 4$



1. $k \parallel n$; transv. t cuts l+n	1. Given
2. $\angle 1 \cong \angle 2$	2. $\parallel$ lines → ~~corr.~~ alt. int. $\angle^s \cong$
3. $m\angle 1 = m\angle 2$	3. def. $\cong$
4. $m\angle 2 + m\angle 4 = 180$	4. $\angle$ Add'n Post
5. $m\angle 1 + m\angle 4 = 180$	5. Subst.
6. $\angle 1$ is supp. to $\angle 4$	6. def. supp.

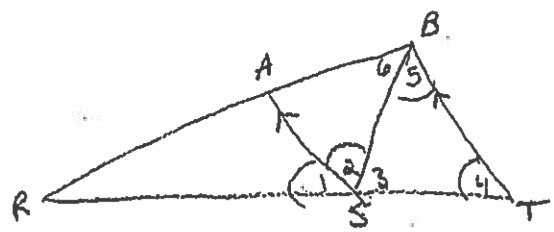
(23) Given: $\overline{AB} \parallel \overline{DC}$; $\overline{AD} \parallel \overline{BC}$
Prove: $\angle A \cong \angle C$



Statements	Reasons
1. $\overline{AB} \parallel \overline{DC}$; $\overline{AD} \parallel \overline{BC}$	1. Given
2. $\angle A$ is supp. to $\angle D$ $\angle D$ is supp. to $\angle C$	2. $\parallel$ lines → S-S Int. supp.
~~3. $m\angle A + m\angle D = 180$ $m\angle D + m\angle C = 180$~~	~~3. def. supp.~~
~~4. $m\angle A + m\angle D = m\angle D + m\angle C$~~	~~4. subst.~~
~~5. $m\angle D = m\angle D$~~	~~5. Reflexive~~
~~6. $m\angle A = m\angle C$~~	~~6. sub. prop.~~
7. $\angle A \cong \angle C$	7. ~~def. ≅~~ 2 ∠s supp. same ∠ → ∠s ≅

} unnec.

(24) Given: $\overline{AS} \parallel \overline{BT}$
$m\angle 4 = m\angle 5$
Prove: $\overrightarrow{SA}$ bisects $\angle BSR$



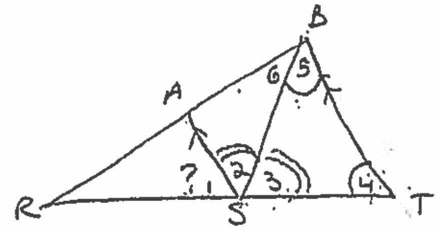
Statements	Reasons
1. $\overline{AS} \parallel \overline{BT}$; $m\angle 4 = m\angle 5$	1. Given
2. $\angle 5 \cong \angle 2$	2. $\parallel$ lines → Alt. int. ∠s ≅
3. $\angle 4 \cong \angle 1$	3. $\parallel$ lines → corr. ∠s ≅
4. $m\angle 5 = m\angle 2$; $m\angle 4 = m\angle 1$	4. def. ≅
5. $m\angle 1 = m\angle 2$	5. Subst.
6. $\angle 1 \cong \angle 2$	6. def. ≅
7. $\overrightarrow{SA}$ bisects $\angle BSR$	7. def. ∠ bis.

(25) Given: $\overline{AS} \parallel \overline{BT}$

$m\angle 4 = m\angle 5$

$\overrightarrow{SB}$ bisects $\angle AST$

Find $m\angle 1$



corr. ∠s: $m\angle 1 = m\angle 4$ Given: $m\angle 4 = m\angle 5$ A-I∠: $m\angle 5 = m\angle 2$ def. bis.: $m\angle 2 = m\angle 3$

$m\angle 1 = m\angle 5 = m\angle 2 = m\angle 3$

$m\angle 1 + m\angle 2 + m\angle 3 = 180$

$3m\angle 1 = 180$

$\boxed{m\angle 1 = 60}$