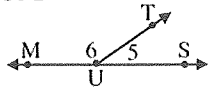


Name: \_\_\_\_\_

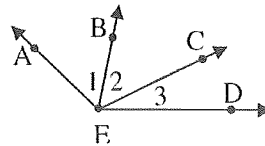
**Geometry Proofs Worksheet B**

1. Given:  $m\angle 5 = 47^\circ$   
 Prove:  $m\angle 6 = 133^\circ$



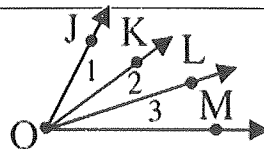
1. _____	1. _____
2. $\angle 5 + \angle 6 = 180$	2. _____
3. _____ + $\angle 6 = 180$	3. Substitution
4. $\angle 6 = 133$	4. _____

2. Given:  $\angle 1$  and  $\angle 2$  are complementary  
 $\angle 3$  and  $\angle 2$  are complementary  
 Prove:  $m\angle 1 = m\angle 3$



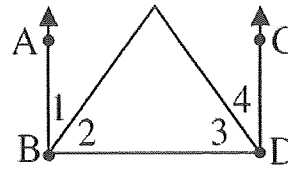
1. _____	1. _____
2. $\angle 1 + \angle 2 =$ _____ $\angle 3 + \angle 2 =$ _____	2. _____
3. $\angle 1 + \angle 2 = \angle 3 + \angle 2$	3. _____
4. _____	4. _____

3. Given:  $m\angle 1 = m\angle 3$   
 Prove:  $m\angle JOL = m\angle KOM$



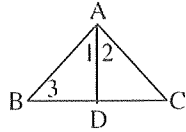
1. _____	1. _____
2. $\angle$ _____ = $\angle 1 + \angle 2$ $\angle KOM = \angle 3 + \angle 2$	2. _____
3. $\angle JOL = \angle 3 + \angle 2$	3. _____
4. _____	4. _____

4. Given:  $\angle ABD$  and  $\angle CDB$  are right angles  
 $m\angle 2 = m\angle 4$   
 Prove:  $m\angle 1 = m\angle 3$



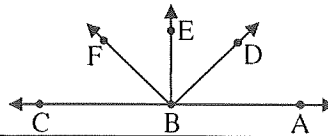
1. _____	1. _____
2. $\angle ABD = 90, \angle CDB = 90$	2. _____
3. $\angle ABD = \angle CDB$	3. _____
4. $\angle ABD = \angle 1 + \angle 2, \angle CDB = \angle 3 + \angle 4$	4. _____
5. $\angle 1 + \angle 2 = \angle 3 + \angle 4$	5. _____
6. $\angle 1 + \angle 2 = \angle 3 + \angle 2$	6. _____
7. _____	7. _____

5. Given:  $\overline{AD}$  bisects  $\angle BAC$   
 $\angle 1 \cong \angle 2$   
 Prove:  $\angle 2 \cong \angle 3$



1. _____	1. _____
2. $\angle 1 \cong \angle 2$	2. _____
3. _____	3. _____

6. Given:  $m\angle ABE = m\angle CBE$   
 Prove:  $\angle ABD$  and  $\angle DBE$  are complementary

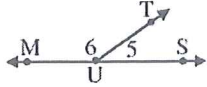


1. $\angle ABE \cong \angle CBE$	1. given
2. $\angle ABE + \angle CBE = 180$	2. _____
3. $\angle ABE + \angle ABE = 180$	3. _____
4. $2\angle ABE = 180$	4. _____
5. $\angle ABE = 90$	5. _____
6. $\angle ABE = \angle ABD + \angle DBE$	6. _____
7. $90 = \angle ABD + \angle DBE$	7. _____
8. $\angle ABD$ and $\angle DBE$ are compl.	8. def. of compl.

Name: Key

Geometry Proofs Worksheet B

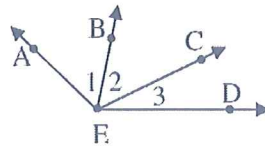
1. Given:  $m\angle 5 = 47^\circ$   
 Prove:  $m\angle 6 = 133^\circ$



1.  $\angle 5 = 47^\circ$
2.  $\angle 5 + \angle 6 = 180^\circ$
3.  $47 + \angle 6 = 180$
4.  $\angle 6 = 133^\circ$

1. given
2. linear pairs are Suppl.
3. Subs.
4. Subtraction.

2. Given:  $\angle 1$  and  $\angle 2$  are complementary  
 $\angle 3$  and  $\angle 2$  are complementary  
 Prove:  $m\angle 1 = m\angle 3$



1.  $\angle 1$  and  $\angle 2$  are compl.  
 $\angle 3$  and  $\angle 2$  are compl.
2.  $\angle 1 + \angle 2 = 90$     $\angle 3 + \angle 2 = 90$
3.  $\angle 1 + \cancel{\angle 2} = \angle 3 + \cancel{\angle 2}$
4.  $\angle 1 = \angle 3$

1. given
2. def of compl.
3. Substitution
4. subtraction

3. Given:  $m\angle 1 = m\angle 3$   
 Prove:  $m\angle JOL = m\angle KOM$



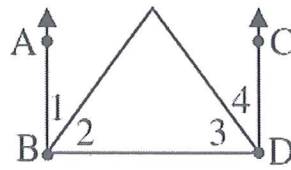
1.  $\angle 1 = \angle 3$
2.  $\angle JOL = \angle 1 + \angle 2$   
 $\angle KOM = \angle 3 + \angle 2$
3.  $\angle JOL = \angle 3 + \angle 2$
4.  $\angle JOL = \angle KOM$

1. given
2. angle addition.
3. Substitution
4. Substitution

4. Given:  $\angle ABD$  and  $\angle CDB$  are right angles

$$m\angle 2 = m\angle 4$$

Prove:  $m\angle 1 = m\angle 3$

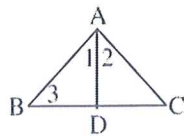


- |  |                       |
|--|-----------------------|
| 1. $\angle ABD$ and $\angle CDB$ are RT<br>$\angle 2 = \angle 4$             | 1. given              |
| 2.) $\angle ABD = 90, \angle CDB = 90$                                       | 2. def of RT $\angle$ |
| 3.) $\angle ABD = \angle 1 + \angle 2$<br>$\angle CDB = \angle 3 + \angle 4$ | 3.) angle addition    |
| 4.) $\angle ABD = \angle CDB$  | 4.) substitution      |
| 5.) $\angle 1 + \angle 2 = \angle 3 + \angle 4$                              | 5.) substitution      |
| 6.) $\angle 1 + \angle 2 = \angle 3 + \angle 4$                              | 6.) substitution      |
| 7.) $\angle 1 \cong \angle 3$  | 7.) subtraction       |

5. Given:  $\overline{AD}$  bisects  $\angle BAC$

$$\angle 1 \cong \angle 3$$

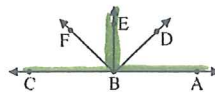
Prove:  $\angle 2 \cong \angle 4$



- |   |                             |
|---|-----------------------------|
| 1. AD bisects $\angle BAC$<br>$\angle 1 \cong \angle 3$ | 1. given                    |
| 2. $\angle 1 \cong \angle 2$                            | 2. def of $\angle$ bisector |
| 3.) $\angle 2 \cong \angle 3$                           | 3.) substitution            |

6. Given:  $m\angle ABE = m\angle CBE$

Prove:  $\angle ABD$  and  $\angle DBE$  are complementary



- |   |                             |
|---|-----------------------------|
| 1. $\angle ABE \cong \angle CBE$                | 1. given                    |
| 2.) $\angle ABE + \angle CBE = 180$             | 2.) linear pairs are suppl. |
| 3.) $\angle ABE + \angle ABE = 180$             | 3.) subs.                   |
| 4.) $2\angle ABE = 180$                         | 4.) CLT                     |
| 5.) $\angle ABE = 90$                           | 5.) division                |
| 6.) $\angle ABE = \angle ABD + \angle DBE$      | 6.) angle addition          |
| 7.) $90 = \angle ABD + \angle DBE$              | 7.) substitution            |
| 8.) $\angle ABD$ and $\angle DBE$<br>are compl. | 8.) def of compl.           |