

Homework #10

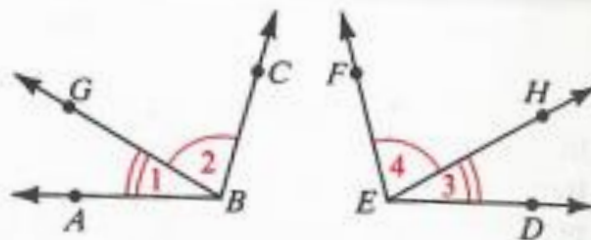
CE: Page 40, #11 - 12

WE: Pages 41 - 43

#6 - 10, 13 - 14

Complete each proof by supplying missing reasons and statements.

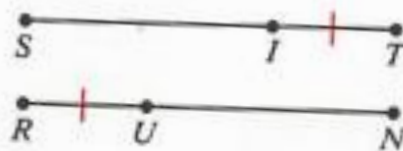
11. Given: $m\angle 1 = m\angle 3$;
 $m\angle 2 = m\angle 4$
 Prove: $m\angle ABC = m\angle DEF$



Proof:

Statements	Reasons
1. $m\angle 1 = m\angle 3$; $m\angle 2 = m\angle 4$	1. <u> ?</u> Given
2. $m\angle 1 + m\angle 2 = m\angle 3 + m\angle 4$	2. <u> ?</u> Addition Prop. of =
3. $m\angle 1 + m\angle 2 = m\angle ABC$; $m\angle 3 + m\angle 4 = m\angle DEF$	3. <u> ?</u> Angle Addition Post.
4. $m\angle ABC = m\angle DEF$	4. <u> ?</u> Substitution Prop.

12. Given: $ST = RN$; $IT = RU$
 Prove: $SI = UN$



Proof:

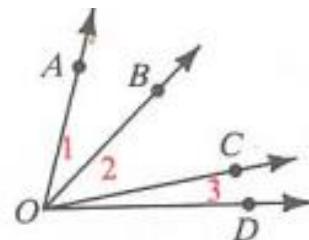
Statements	Reasons
1. $ST = RN$	1. <u> ?</u> Given
2. <u> ?</u> = $SI + IT$; ST <u> ?</u> = $RU + UN$ RN	2. <u> ?</u> Segment Addition Post.
3. $SI + IT = RU + UN$	3. <u> ?</u> Substitution Prop.
4. $IT = RU$	4. <u> ?</u> Given
5. <u> ?</u> SI = UN	5. <u> ?</u> Subtraction Prop. of =

$$\begin{aligned}
 6. \quad x - 2 &= \frac{2x + 8}{5} \\
 5(x - 2) &= 2x + 8 \\
 5x - 10 &= 2x + 8 \\
 3x - 10 &= 8 \\
 3x &= 18 \\
 x &= 6
 \end{aligned}$$

Given
 Mult. Prop. of =
 Dist. Prop.
 Subtr. Prop. of =
 Add. Prop. of =
 Div. Prop. of =

7. Given: $\angle AOD$ as shown

Prove: $m\angle AOD = m\angle 1 + m\angle 2 + m\angle 3$



Proof:

Statements

Reasons

- | | |
|---|---|
| 1. $m\angle AOD = m\angle AOC + m\angle 3$ | 1. <u>?</u> Angle Addition Postulate |
| 2. $m\angle AOC = m\angle 1 + m\angle 2$ | 2. <u>?</u> Angle Addition Postulate |
| 3. <u>?</u> $m\angle AOD = m\angle 1 + m\angle 2 + m\angle 3$ | 3. <u>?</u> Substitution Prop. |

8. Given: $FL = AT$

Prove: $FA = LT$



Proof:

Statements

Reasons

- | | |
|---|---|
| 1. <u>?</u> $FL = AT$ | 1. Given |
| 2. $LA = LA$ | 2. <u>?</u> Reflexive Prop. |
| 3. $FL + LA = AT + LA$ | 3. <u>?</u> Addition Prop. of = |
| 4. $FL + LA = FA$;
$LA + AT = LT$ | 4. <u>?</u> Segment Addition Post. |
| 5. <u>?</u> $FA = LT$ | 5. Substitution Prop. |

9. Given: $DW = ON$
 Prove: $DO = WN$



Proof:

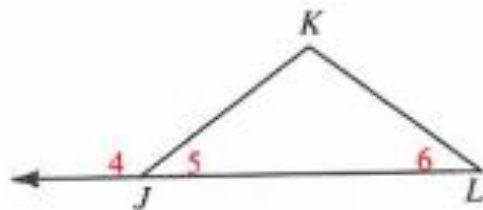
Statements

Reasons

1. $DW = ON$
2. $DW = DO + OW$;
 $ON = \underline{\quad} + \underline{\quad}$ **OW, WN**
3. $\underline{\quad}$ **$DO + OW = OW + WN$**
4. $OW = OW$
5. $\underline{\quad}$ **$DO = WN$**

1. $\underline{\quad}$ **Given**
2. $\underline{\quad}$ **Segment Addition Post.**
3. **Substitution Prop.**
4. $\underline{\quad}$ **Reflexive Prop.**
5. $\underline{\quad}$ **Subtraction Prop. of =**

10. Given: $m\angle 4 + m\angle 6 = 180$
 Prove: $m\angle 5 = m\angle 6$



Proof:

Statements

Reasons

1. $m\angle 4 + m\angle 6 = 180$
2. $m\angle 4 + m\angle 5 = 180$
3. $m\angle 4 + m\angle 5 = m\angle 4 + m\angle 6$
4. $m\angle 4 = m\angle 4$
5. $\underline{\quad}$ **$m\angle 5 = m\angle 6$**

1. $\underline{\quad}$ **Given**
2. $\underline{\quad}$ **Angle Addition Post.**
3. $\underline{\quad}$ **Substitution Prop.**
4. $\underline{\quad}$ **Reflexive Prop.**
5. $\underline{\quad}$ **Subtraction Prop. of =**