

Prove: $SI = UN$



Proof:

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

Written Exercises

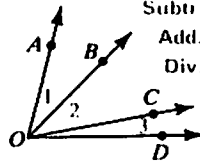
Justify each step.

- A
- | | | |
|-----------------------------------|---------------------------------------|--------------------------------|
| 1. $4x - 5 = -2$ Given | 2. $\frac{3a}{2} = \frac{6}{5}$ Given | 3. $\frac{z+7}{3} = -11$ Given |
| $4x = 3$ Add. Prop. of = | $3a = \frac{12}{5}$ Mult. Prop. of = | $z + 7 = -33$ |
| $x = \frac{3}{4}$ Div. Prop. of = | $a = \frac{4}{5}$ Div. Prop. of = | $z = -40$ |
| | | Mult. Prop. of = |
| | | Sub. Prop. of = |
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|-----------------------------------|-----------------------------------|--|
| 4. $15y + 7 = 12 - 20y$ Given | 5. $\frac{2}{3}b = 8 - 2b$ Given | 6. $\frac{x-2}{2} = \frac{4+x}{5}$ Given |
| $35y + 7 = 12$ Add. Prop. of = | $2b = 3(8 - 2b)$ Mult. Prop. of = | $5(x-2) = 2(4+x)$ Mult. Prop. of = |
| $35y = 5$ Subtr. Prop. of = | $2b = 24 - 6b$ Distrib. Prop. | $5x - 10 = 8 + 2x$ Distrib. Prop. |
| $y = \frac{1}{7}$ Div. Prop. of = | $8b = 24$ Add. Prop. of = | $3x - 10 = 8$ Subtr. Prop. of = |
| | $b = 3$ Div. Prop. of = | $3x = 18$ Add. Prop. of = |
| | | $x = 6$ Div. Prop. of = |

Copy everything shown and supply any missing statements and reasons.

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. ? Angle Addition Postulate
2. $m\angle AOC = m\angle 1 + m\angle 2$	2. ? Angle Addition Postulate
3. ? $m\angle AOD = m\angle 1 + m\angle 2 + m\angle 3$	3. ? Substitution Prop. of =

Prove: $FA = LT$

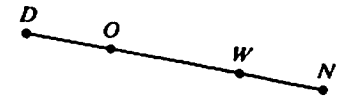


Proof:

Statements	Reasons
1. ? $FL = AT$	1. Given
2. $LA = LA$	2. ? Reflexive Prop. of =
3. $FL + LA = AT + LA$	3. ? Addition Prop. of =
4. $FL + LA = FA$; $LA + AT = LT$	4. ? Segment Addition Postulate
5. ? $FA = LT$	5. Substitution Prop.

9. Given: $DW = ON$

Prove: $DO = WN$

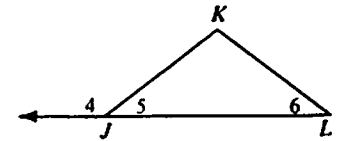


Proof:

Statements	Reasons
1. $DW = ON$	1. ? Given
2. $DW = DO + OW$; $ON = ? + ?$ OW, WN	2. ? Segment Addition Postulate
3. ? $DO + OW = OW + WN$	3. Substitution Prop.
4. $OW = OW$	4. ? Reflexive Prop. of =
5. ? $DO = WN$	5. ? Subtraction Prop. of =

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

Prove: $m\angle 5 = m\angle 6$



Proof:

Statements	Reasons
1. $m\angle 4 + m\angle 6 = 180$	1. ? Given
2. $m\angle 4 + m\angle 5 = 180$	2. ? Angle Addition Postulate
3. $m\angle 4 + m\angle 5 = m\angle 4 + m\angle 6$	3. ? Substitution Prop. of =
4. $m\angle 4 = m\angle 4$	4. ? Reflexive Prop. of =
5. ? $m\angle 5 = m\angle 6$	5. ? Subtraction Prop. of =