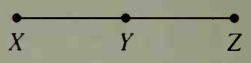
Written Exercises

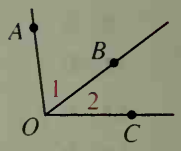
Some information about the diagram is given. Tell whether the other statements can be deduced from what is given. (Write *yes* or *no*.)

A **1.** Given: Point Y lies between points X and Z.



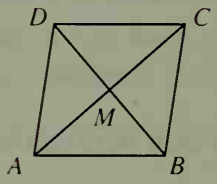
a. $XY = \frac{1}{2}XZ$ **b.** $XZ = XY + YZ$
c. $XZ > XY$ **d.** $YZ > XY$
e. $XZ > YZ$ **f.** $XZ > 2XY$

2. Given: Point B lies in the interior of $\angle AOC$.



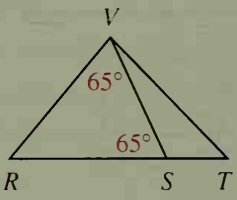
a. $m\angle 1 = m\angle 2$ **b.** $m\angle AOC = m\angle 1 + m\angle 2$
c. $m\angle AOC > m\angle 1$ **d.** $m\angle AOC > m\angle 2$
e. $m\angle 1 > m\angle 2$ **f.** $m\angle AOC > 90$

3. Given: $\square ABCD$; $AC > BD$



a. $AB > AD$ **b.** $AM > MC$
c. $DM = MB$ **d.** $AM > MB$

4. Given: $m\angle RVS = m\angle RSV = 65$

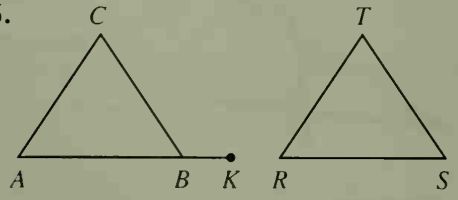


a. $RT > RS$ **b.** $RT > RV$
c. $RS > ST$ **d.** $VT < RS$

5. When some people are given that $j > k$ and $l > m$, they carelessly conclude that $j + k > l + m$. Find values for j, k, l, and m that show this conclusion is false.

Write the reasons that justify the statements.

6.

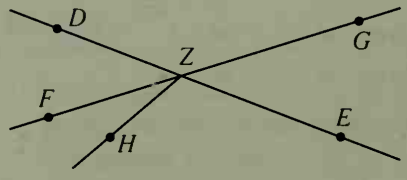


Given: $\triangle ABC \cong \triangle RST$
Prove: $AK > RS$

Statements of proof:

1. $\triangle ABC \cong \triangle RST$
2. $\overline{AB} \cong \overline{RS}$, or $AB = RS$
3. $AK = AB + BK$
4. $AK > AB$
5. $AK > RS$

7.



Given: $\overleftrightarrow{DE}$, $\overleftrightarrow{FG}$ and $\overrightarrow{ZH}$ contain point Z.
Prove: $m\angle DZH > m\angle GZE$

Statements of proof:

1. $\angle DZF \cong \angle GZE$, or $m\angle DZF = m\angle GZE$
2. $m\angle DZH = m\angle DZF + m\angle FZH$
3. $m\angle DZH > m\angle DZF$
4. $m\angle DZH > m\angle GZE$