

Chapter 2 Questions

For # 13-15, write the converse, inverse & contrapositive of the conditional statement.

13) If the angles are complementary then they add to 90° .

Converse: IF the \angle 's add to 90° , then they are compl.

Inverse: IF the \angle 's are NOT comp, then they do NOT add to 90°

Contrapositive: IF the \angle 's do NOT add to 90° , then they are NOT comp.

14) If $x = 2$, then $3x + 10 = 16$.

Converse: IF $3x + 10 = 16$, then $x = 2$

Inverse: IF $x \neq 2$, then $3x + 10 \neq 16$.

Contrapositive: IF $3x + 10 \neq 16$, then $x \neq 2$

15) If two line are not parallel, then they intersect.

Converse: IF two lines intersect, then they are not parallel

Inverse: IF two lines ARE parallel, then they do NOT intersect

Contrapositive: IF two lines do NOT intersect, then they ARE parallel

16) Use the diagram to determine if the statements below are true or false.

a. $\overline{SV} \perp$ plane Z. TRUE

b. \overline{XU} intersects plane Z at point Y. TRUE

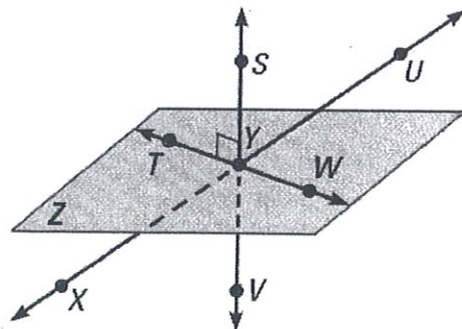
c. \overline{TW} lies in plane Z. TRUE

d. $\angle SYT$ and $\angle WYS$ are vertical angles. FALSE -
adj. \angle 's

e. $\angle SYT$ and $\angle TYV$ are complementary angles.
FALSE - suppl.

f. $\angle TYU$ and $\angle UYW$ are a linear pair. TRUE

g. $\angle UYV$ is acute. FALSE



17) Solve the equation. Write a reason for each step.

Given: $13(2x - 3) - 20x = 3$

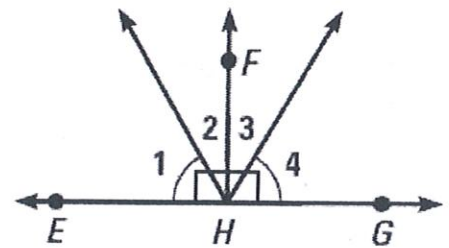
Prove: $x = 7$

Steps	Reasons
$26x - 39 - 20x = 3$ $6x - 39 = 3$ $6x = 42$ $x = 7$	Distr. Comb. Like Terms (Simplify) Add. Division

* Reasons for steps are algebraic properties: addition property, subtraction property, multiplication property, division property, distributive property, simplify, substitution

18) Given: Diagram

Prove: $m\angle 2 = m\angle 3$



Statements	Reasons
$m\angle 1 = m\angle 4$ 1. $m\angle EHF = 90^\circ$ $m\angle GHF = 90^\circ$	1. Given
2. $m\angle EHF = m\angle GHF$	2. Subst./Trans.
3. $m\angle EHF = m\angle 1 + m\angle 2$ $m\angle GHF = m\angle 3 + m\angle 4$	3. Ang. Add. Post.
4. $m\angle 1 + m\angle 2 = m\angle 3 + m\angle 4$	4. Subst. (Steps 2+3)
5. $m\angle 1 + m\angle 2 = m\angle 3 + m\angle 1$ $\quad \quad \quad -m\angle 1 \quad \quad \quad -m\angle 1$	5. Subst (Steps 1+4)
6. $m\angle 2 = m\angle 3$	6. Subtr.

WORD BANK #17-18

- Given
- Angle Addition Postulate
- Substitution
- Distributive Prop.
- Addition Prop.
- Division Prop.
- Combine Like Terms (Simplify)
- Subtraction Prop.