

Decide if each statement is true or false. Explain using a postulate, theorem or definition.

1. A point can be in more than one plane.

True, it could be the intersection of 2 planes

2. Through any two points there are infinitely many lines.

False, there is exactly one line between any 2 points.

3. Only one plane can be drawn through three non-collinear points.

True, through any 3 noncollinear points there is 1 plane.

4. A line contains at least one point.

True, in fact, it contains at least 2 points.

5. If C and D lie in a plane, then the line containing them does not lie in the plane.

False, if 2 pts lie in a plane, then the line containing them lies in that plane.

Identify the property for each statement below.

6. If $RS = TW$, then $TW = RS$.	Symmetric Property
7. $3c(a + b)$, then $3ac + 3bc$.	Distributive Property
8. If $5y = -20$, then $y = -4$.	Division Property
9. If $2x + y = 70$ and $y = 3x$, then $2x + 3x = 70$.	Substitution Property
10. If $x + 5 = 16$, then $x = 11$.	Subtraction Property
11. If $m\angle 1 = m\angle 2$, $m\angle 2 = m\angle 3$ then $m\angle 1 = m\angle 3$.	Transitive Property
12. If $2x - 8 = 12$, then $2x = 20$.	Addition Property
13. If $\frac{3x}{5} = 15$, then $3x = 75$.	Multiplication Property
14. $XY = XY$	Reflexive Property

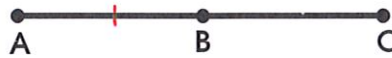
15. Given: $x - 2 = \frac{2x+8}{5}$

Prove: $x = 6$

Statement	Reason
$x - 2 = \frac{2x+8}{5}$	Given
$5(x-2) = 2x+8$	Multiplication Prop.
$5x - 10 = 2x + 8$	Distributive Prop.
$3x - 10 = 8$	Subtraction Prop.
$3x = 18$	Addition Prop.
$x = 6$	Division Prop.

16. Given: $AC = AB + AB$

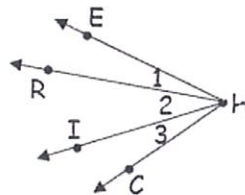
Prove: $AB = BC$



Statement	Reason
1. $AC = AB + AB$	1. Given
2. $AB + BC = AC$	2. Segment Add. Post.
3. $AB + BC = AB + AB$	3. Substitution Prop.
4. $AB = AB$	4. Reflexive Prop.
5. $AB = BC$	5. Subtraction Prop.

17. Given: $m\angle EHI = m\angle RHC$

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



Statement	Reason
1. $m\angle EHI = m\angle RHC$	Given
2. $m\angle EHI = m\angle 1 + m\angle 2$ $m\angle RHC = m\angle 2 + m\angle 3$	Angle Addition Postulate
3. $m\angle 1 + m\angle 2 = m\angle 2 + m\angle 3$	Substitution Prop.
4. $m\angle 1 = m\angle 3$	Reflexive Prop.
5. $m\angle 1 = m\angle 3$	Subtraction Prop.