

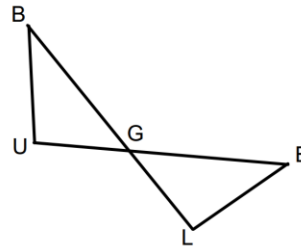
Part I. Match the expression on the left with the expression on the right that best matches it. Print the letters neatly next to each number. If I can't tell what letter you wrote, it will be marked incorrect. (2 points each)

1. ____ Conditional statement
 2. ____ Converse
 3. ____ Hypothesis
 4. ____ Conclusion
 5. ____ Theorem
 6. ____ Postulate
 7. ____ Collinear
 8. ____ Reflexive Property
 9. ____ Substitution Property
 10. ____ Ruler Postulate
 11. ____ Betweenness of points definition
 12. ____ Betweenness of Points Theorem
 13. ____ Protractor Postulate
 14. ____ Betweenness of rays definition
 15. ____ Betweenness of Rays Theorem
 16. ____ Midpoint
 17. ____ Angle bisector
 18. ____ Complementary angles
 19. ____ Supplementary angles
 20. ____ Linear pair
 21. ____ Vertical angles
 22. ____ Perpendicular lines
 23. ____ Congruent triangles
 24. ____ Isosceles triangle
 25. ____ Equilateral triangle
 26. ____ Right triangle
- A. The points on a line can be numbered so that positive number differences measure distance.
 - B. Two lines forming a right angle.**
 - C. A triangle containing a 90° angle.
 - D. A point which divides a line segment into two equal segments.**
 - E. A statement that is assumed to be true without proof.
 - F. $OA-OB-OC$ iff $a<b<c$ or $a>b>c$.**
 - G. For statement "If a, then b," the expression "b."
 - H. Any number is equal to itself.**
 - I. Two triangles possessing a correspondence between their vertices such that all of their corresponding sides and angles are equal.
 - J. The statement: "If a, then b."**
 - K. A triangle having at least two equal sides.
 - L. A statement that is proved by reasoning deductively from already accepted statements.**
 - M. Angles whose sum is 180° .
 - N. A line which divides an angle into two equal angles.**
 - O. If $A-B-C$, then $AB+BC=AC$
 - P. For statement "If a, then b," the expression "a."**
 - Q. If $a=b$, then a can be replaced by b in any expression.
 - R. If $OA-OB-OC$, then $\angle AOB+\angle BOC=\angle AOC$.**
 - S. Points contained within a single line.
 - T. Two angles such that the sides of one angle are opposite rays to the sides of the other.**
 - U. A triangle with all sides equal.
 - V. The rays in a half-rotation can be numbered from 0 to 180 so that positive number differences measure angles.**
 - W. For statement "If a, then b," the statement: "If b, then a."
 - X. Angles whose sum is 90° .**
 - Y. $A-B-C$ iff $a<b<c$ or $a>b>c$.
 - Z. Two angles having a common side and their other sides are opposite rays.**

Part II. Fill in the missing statement(s) and/or reasons in the following proofs. (each blank worth 2 points)

Given: $\angle BGU$ and $\angle EGL$ are vertical angles;
 $BG=GE$;
 $UG=GL$.

Prove: $BU=LE$



Statements:

Reasons:

27. $BG=GE, UG=GL$

28. _____

Given

29. $\angle BGU=\angle EGL$

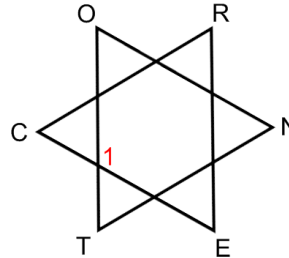
30. _____

SAS Congruence

31. $BU=EL$

Given: $\angle C=\angle O$;
 $\angle R$ and $\angle N$ are supplements of $\angle 1$;
 $CR=ON$.

Prove: $\triangle CRE \cong \triangle ONT$.



Statements:

Reasons:

32. $\angle C=\angle O; CR=ON$

33. _____

Given

34. $\angle R+\angle 1=$ _____

Supplementary angles sum to 180°

35. $\angle N+$ _____= 180°

Supplementary angles sum to 180°

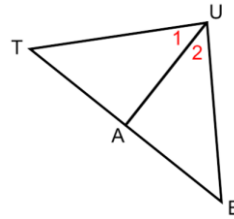
36. _____

Substitution

37. $\angle R=\angle N$

38. $\triangle CRE \cong \triangle ONT$

Given: $\angle T$ and $\angle 2$ are complements of $\angle 1$;
 $TA=AU$;
 $TU=UB$.



Prove: $AU=AB$.

Statements:

39. $TA=AU$; $TU=UB$

40. _____

41. $\angle T + \underline{\hspace{2cm}} = 90^\circ$

42. $\angle 2 + \angle 1 = \underline{\hspace{2cm}}$

43. $\angle T + \angle 1 = \angle 2 + \angle 1$

44. _____

45. $\triangle TAU \cong \triangle AUB$

46. _____

Reasons:

Given

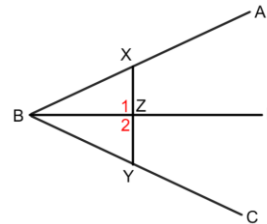
Complementary angles sum to 90°

Complementary angles sum to 90°

Subtraction

Corresponding parts of congruent triangles are equal.

Given: BP bisects $\angle ABC$;
 $BX=BY$;
 $\angle 1$ and $\angle 2$ form a linear pair.



Prove: $XY \perp BP$.

Statements:

47. $BX=BY$

48. _____

49. BP bisects $\angle ABC$

50. $\angle CBP = \angle ABP$

51. _____

52. $\angle 1 = \angle 2$

53. $\angle 1$ and $\angle 2$ form a linear pair

54. $XY \perp BP$

Reasons:

If two sides of a triangle are equal, the angles opposite them are equal.

ASA congruence