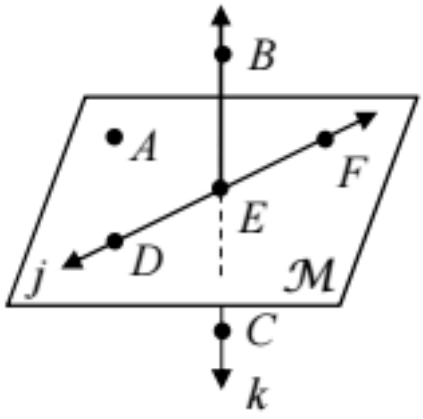
Geometry Semester 1 study guide

Vocabulary:

Supplementary	Equilateral Triangle	Regular
Complementary	Isosceles Triangle	Skew
Linear pair	Scalene Triangle	Conjunction
Adjacent angles	Collinear	Line
Corresponding Angles	Plane	Disjunction
Vertical Angles	Hypotenuse	transversal
Consecutive Interior Angles	Conditional Statement	point
Alternate Ext/Int angles	Angle bisector	quadrilateral
Rhombus	trapezoid(& isosceles)	Square
Parallelogram	Rectangle	

Use the picture at the right for #1-4.



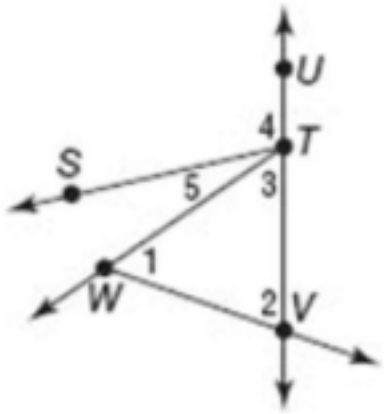
1. Name a line
2. Name the plane 2 different ways.
3. Name where the lines intersect.
4. Name 3 noncoplanar points.
5. Two planes intersect at a _____.

6. If Y is between X and Z and XY = 10, YZ = 3x+7, and ZX = 29, solve for x and find the length of YZ.

7. How do you find the perimeter of a shape?

8. How many points make up a plane?

9. Create your own conditional statement and then state the hypothesis and conclusion.



10. Name the vertex of <4.

11. Name <5 a different way.

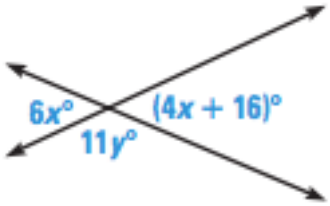
12. Name the sides of <3

13. What is an angle bisector?

14. Write a conjecture about the pattern: 1, ½, ¼, …

15. Vertical angles are always _____.

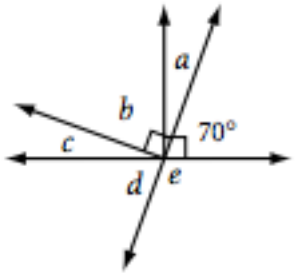
16. Solve for x and y.



17. Determine if the statement is true or false. If it's false, give a counterexample.

The square of a number is larger than the number.

18. Solve for the missing angle measures.



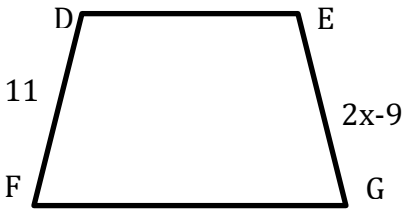
19. Know the difference between disjunctions/conjunctions (and the symbols for each!)

20. What does the symbol ~ mean in a statement?

Write a two-column proof using the information below.

21. GIVEN: $\overline{DF} \cong \overline{EG}$

PROVE: x=10

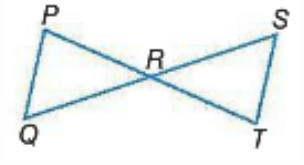


22. Draw an example of a linear pair (with labels).

23.

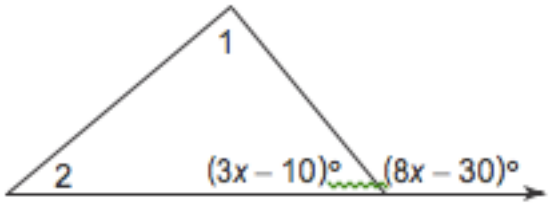
Given: R is the midpoint of $\overline{QS}$ and $\overline{PT}$.

Prove: $\triangle PRQ \cong \triangle TRS$

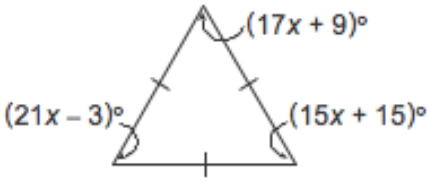


24. In a trapezoid, if the top base is 15 and the bottom base if 32, find the midsegment length.

25. Solve for x.



26. Solve for x in the picture to the right.



27. Determine the slope of the line D (-6, -7), F (12, 23).

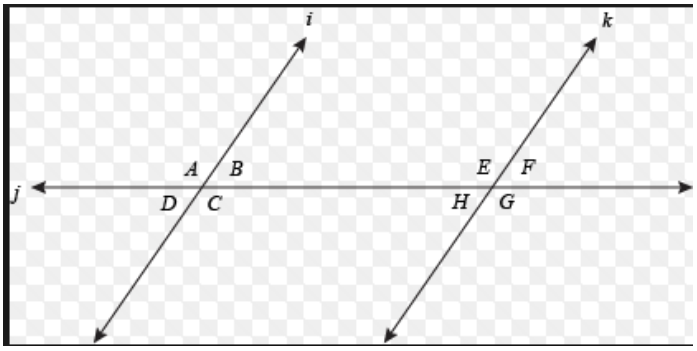
28. In the picture, determine what type of angles the listed angles are (corresponding, alternate interior, alternate exterior, consecutive interior, vertical, or none) THEN tell me if they are congruent or supplementary.

a) <A and <E

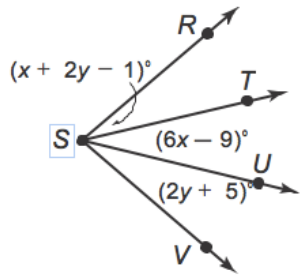
b) <F and <D

c) <D and <H

d) <G and <A



29. Find m<RST if ST bisects <RSU and SU bisects <TSV.



Use the sentence below for #30-31.

If it rains, then the game will be cancelled.

30. Find the converse.

31. Find the inverse.

Find the midpoint and distance of the points below.

32. (4,5) and (-3,2)

33. Slope of a horizontal line is _____.

34. Slope of a vertical line is _____.

35. What does CPCTC stand for?

Determine if the questions are always, sometimes, or never true.

36. Two angles that are a linear pair are_____ congruent.

37. Right triangles are _____ acute.

Determine what property is show below using the listed properties (#38-41).

Addition	Subtraction	Multiplication	Division	Reflexive
Symmetric	Transitive	Substitution	Distributive	

38. <ABC = <ABC

39. If m=3 then 3=m.

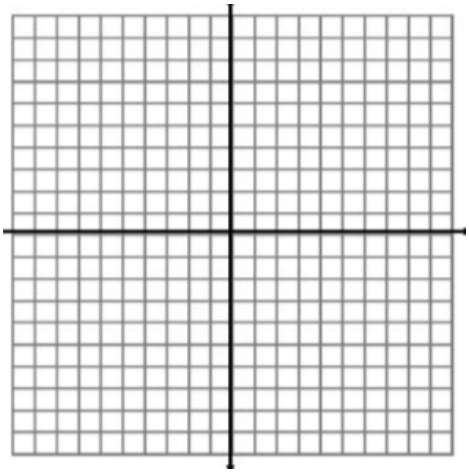
40. If x+y <y +5, then x<5

41. If x+3 = g and g = 15, then x+3=15

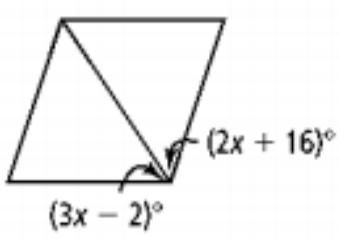
42. What are the 5 ways to show that two triangles are congruent? List them below.

43. Write the equation of the line that goes through the point (4,5) and is perpendicular to the line $y = \frac{4}{7}x + 1$

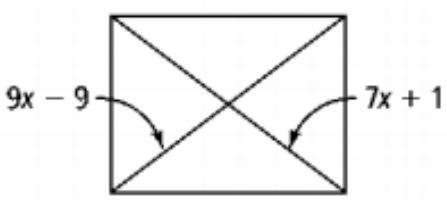
44. Graph the equation $y = -3x - 2$



45. Solve for x in the rhombus below.



46. Solve for x in the rectangle below.



47. Vertical angles are always _____

48. One interior angle of a regular hexagon is equal to _____.

49. In a triangle, the side across from the biggest angle is the shortest. TRUE OR FALSE?

State if these are always, sometimes, or never true.

50. Vertical angles are complementary

51. Right triangles are acute.

52. Two angles that form a linear pair are congruent.

53. Two angles that are vertical are nonadjacent.

Fill in the table below.

PROPERTY	PARALLELOGRAM	RECTANGLE	RHOMBUS	SQUARE	ISOSCELES TRAPEZOID	KITES
Diagonals are congruent						
Diagonals bisect each other						
Each diagonal bisects a pair of opposite angles						
At least 1 pair of opposite angles is congruent						
The diagonals are perpendicular						