Name_____ Geometry 1st Semester Exam Review

Vocabulary: Copy each word and write the definition from your notes or the book.

Test #1: Lessons 1-2/1-3/1-6/1-7

1. Point
2. Segment
3. Intersection
4. Line
5. Opposite rays
6. Midpoint
7. Ray
8. Collinear
9. Segment bisector
10. Plane
11. Coplanar
12. Congruence
13. Perpendicular Lines

Test #2: Lessons 1.4-1.5

14. Acute angle
15. Adjacent angles
16. Supplementary ∡s
17. Right angle
18. Vertical angles
19. Angle bisector
20. Obtuse angle
21. Linear pair angles
22. Straight angle
23. Complementary ∡s

Test #3: Lessons 2.1-2.4

24. Conjecture
25. Converse
26. Counterexample
27. Inductive reasoning
28. Conditional statement

Test #4: Lessons 2.5-2.6

29. Substitution Property
30. Transitive Property
31. Distributive Property
32. Reflexive Property
33. Symmetric Property
34. Multiplicative Identity Prop
35. Properties of equality: addition, subtraction, multiplication, division
36. Law of Detachment
37. Law of Syllogism

Test #5: Lessons 3.1-3.4

38. Skew Lines
39. Corresponding ∡s
40. Transversal
41. Alt. interior ∡s
42. Parallel (∥) Lines
43. Alt. exterior ∡s
44. Parallel Planes
45. Same-Side int. ∡s

Test #6: Lessons 3.7-3.8

46. Slope of ∥ lines
47. Slope of ⊥ lines
48. Point- slope
49. Slope-intercept

Test #7: Lessons 3-5 and Chapter 4

50. Acute Triangle
51. Scalene Triangle
52. Right Triangle
53. Equilateral Triangle
54. Equiangular Triangle
55. Obtuse Triangle
56. Isosceles Triangle
57. SSS Postulate
58. SAS Postulate
59. ASA Postulate
60. AAS Theorem
61. HL Theorem
62. CPCTC

Test #8: Chapter 5

63. Centroid
64. Midsegment
65. Circumcenter
66. Median
67. Concurrent lines
68. ⊥ bisector
69. Incenter
70. Orthocenter

Test #9: Lessons 6.2-6.5

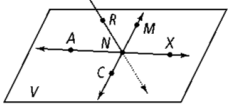
Define and List Properties Of:

71. Parallelogram
72. Rectangle
73. Rhombus
74. Square

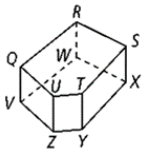
Name_____ **Geometry** **1st Semester Exam Review Part 2**

Application:

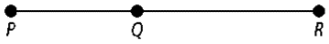
1. Name 3 collinear points



Name 4 coplanar points.



2. If $PQ = 7$ and $PR = 24$, Then $QR =$ ☐



3. Find the coordinates of the midpoint of $\overline{AB}$

$A(14, -2), B(7, -8)$

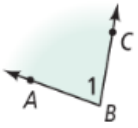
4. Find the distance between the pair of points.

$A(6, 7), B(-1, 7)$

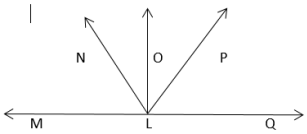
5. On a number line, P is at -5 and R is at 5. What is the coordinate of Q, which is 2/5 of the way from P to R?

6. Find the area and perimeter of the following figure on the coordinate plane. $A(0, 0)$, $B(0, 5)$, $C(6, 5)$, $D(6, 0)$

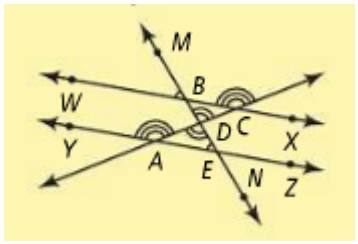
7. What are two other names for $\angle 1$?



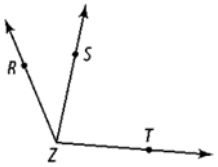
8. Find the measure of $m\angle MLP$ and classify.



9. $\angle ADE \cong$ ☐



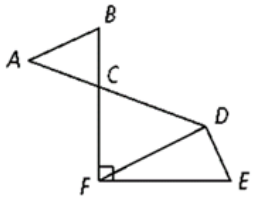
10. If $m\angle RZT = 114°$, $m\angle RZS = 3x-2$, and $m\angle TZS = 8x+6$, what are $m\angle RZS$ and $m\angle TZS$?



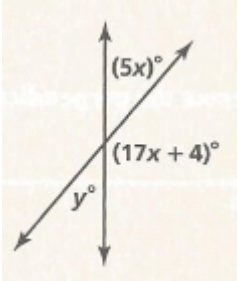
11. $\overrightarrow{QS}$ bisects $\angle PQR$. Solve for x and find $m\angle PQR$.

$m\angle PQS = 3x$; $m\angle SQR = 5x - 20$

12. Name a pair of vertical ∠s



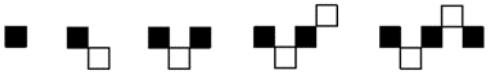
13. Solve for x and y.



14. What are the next two terms in the sequence?

3, 5, 9, 15, 23, …

15. What are the next two pictures in the sequence?



16. Determine if the conditional is true or false. If it is false, give a counter-example.

If an animal barks, then it is a seal.

For 17-18, If the conditional and its converse are both true, then write it as a biconditional. If the converse is false, explain why.

17. If the temperature outside is below freezing, then ice can form on the sidewalks

18. If two angles are complementary, then their measures sum to 90.

For 19-21, Use the Law of Detachment and the Law of Syllogism to make conclusions from the following statements, or write, no conclusion.

19. If a triangle is a right triangle, then the triangle has one 90º angle. ΔABC is a right triangle.

20. To take Calculus, you must first take Algebra 2. To take Algebra 2, you must first take Algebra 1.

21. If cats prowl, mice will scatter. Mice are scattering.

For 22-25, Name the property that justifies going from the first statement to the second statement.

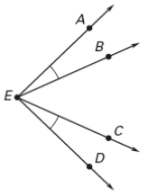
22. $3(x+2)=15$
$3x+6=15$

23. $\measuredangle A \cong \measuredangle B, \measuredangle B \cong \measuredangle C$
$\measuredangle A \cong \measuredangle C$

24. $7x+5, x=5$
$7(5)+5$

25. $9x = -5y$
$9x - 7 = -5y - 7$

26. Fill in the missing reasons



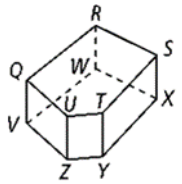
Given: $m\measuredangle AEB = m\measuredangle CED$

Prove: $m\measuredangle AEC = m\measuredangle BED$

	Statements		Reasons
1.	$m\measuredangle AEB = m\measuredangle CED$	1.	?
2.	$m\measuredangle AEC = m\measuredangle AEB + m\measuredangle BEC$	2.	?
3.	$m\measuredangle BED = m\measuredangle CED + m\measuredangle BEC$	3.	?
4.	$m\measuredangle AEC = m\measuredangle CED + m\measuredangle BEC$	4.	?
5.	$m\measuredangle AEC = m\measuredangle BED$	5.	?

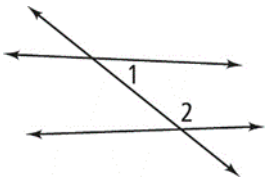
27. Use the diagram to name a plane.

28. Use the diagram to name the plane parallel to TSXY.



For 29-33, Determine if the numbered angles are *alternate interior, alternate exterior, corresponding* or *consecutive interior.*

29.



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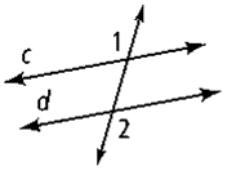

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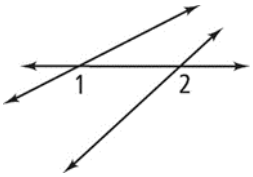

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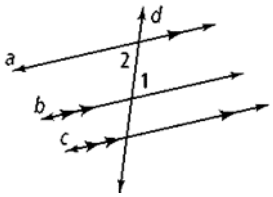

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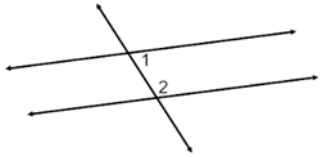
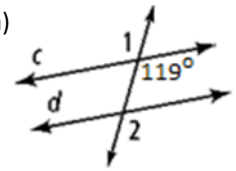
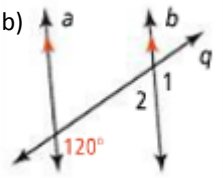


34. Find $m\angle 1$ *and* $m\angle 2$.

a)

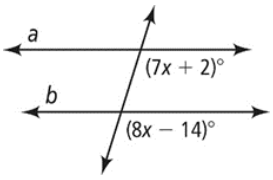


b)

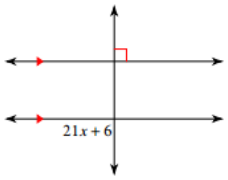


35. Find the value of *x* for which $a \parallel b$.

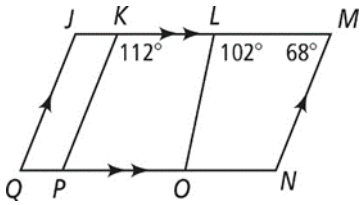
a)



b)



36. Which line segments are ∥ ? Explain



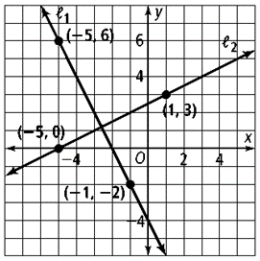
37. Find the slope of the line passing through the given points. $(2, 0), (-6, 8)$

38. Write an equation of a line that passes through points, $(-2, 0)$ & $(3, 10)$

39. Write the equation of a line with the given information

slope $\frac{3}{4}$, through $(-8, 2)$

40. Use the graph to decide if the lines are ∥, ⊥, or neither.



41. Write an equation of a line that is ⊥ to the given line & goes through D

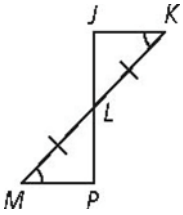
$D(6, 2)$; $y = -3x + 5$

42. Write an equation of a line that is ∥ to the given line & through C

$C(8, 1)$; $y = 2x + 6$

For 43-46, Can the triangles be proven congruent? State which method or write *not enough information.*

43.



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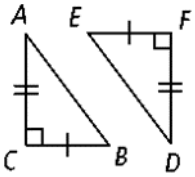

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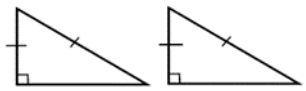
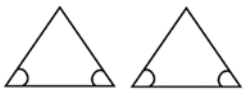


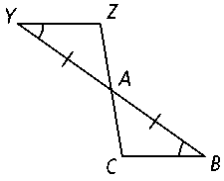
46.



47. Fill in the missing statements or reasons in the proof.

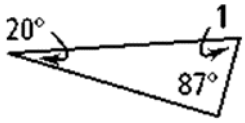
Given: $\overline{YA} \cong \overline{BA}$, $\measuredangle B \cong \measuredangle Y$

Prove: $\overline{AZ} \cong \overline{AC}$

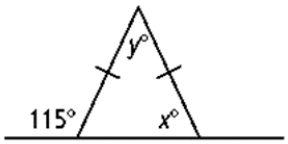


	Statements		Reasons
1.	$\overline{YA} \cong \overline{BA}$, $\angle B \cong \angle Y$	1.	?
2.	$\angle YAZ \cong \angle BAC$	2.	?
3.	?	3.	?
4.	$\overline{AZ} \cong \overline{AC}$	4.	?

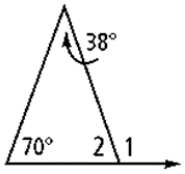
48. Find the $m\angle 1$



49. Find x & y

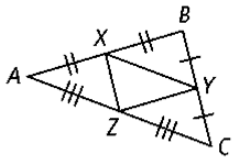


50. Find the $m\angle 1$ & $m\angle 2$



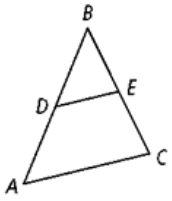
For 52-53, *D* is the midpoint of $\overline{AB}$. *E* is the midpoint of $\overline{CB}$

51. a) Name the triangle side that is parallel to AB.
b) $m\angle C = 34$, find $m\angle XZA$.



52. If *DE* = 23, find *AC*.

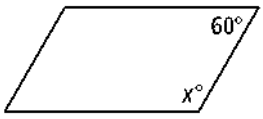
53. If *AC* = 83, find *DE*



54. Name the 3 "centers" of a Δ, the types of lines that create them.

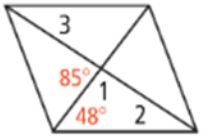
55-57, Solve for the variables in the parallelogram

55.



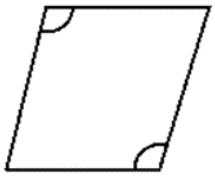
56.

57.

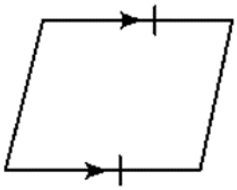


For 58-59, can you prove the quadrilateral is a parallelogram based on the given information? Explain.

58.

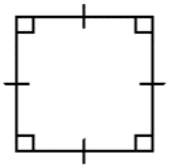


59.

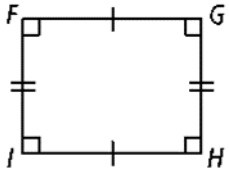


For 60-62, Is the parallelogram a rhombus, rectangle, or square?

60.



61.



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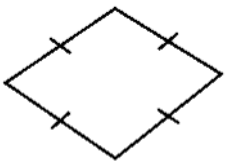
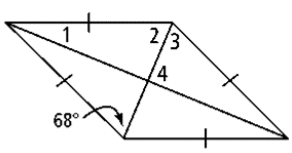
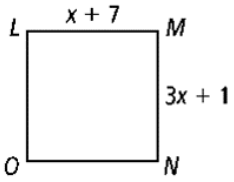


63. Find the value of the variables in the rhombus



64. Solve for x in Square LMNO.



65. Solve for x in the Rhombus.