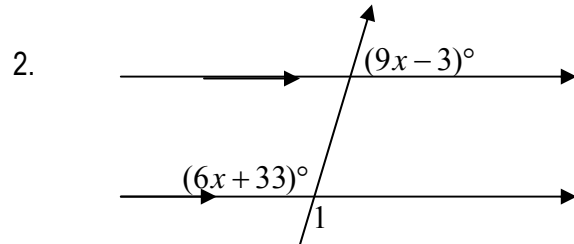
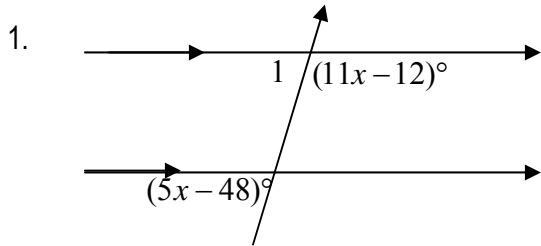
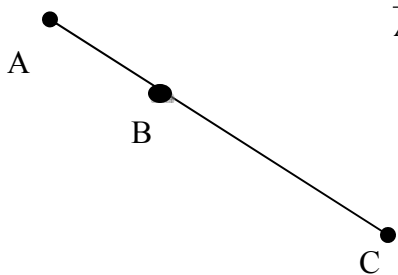


## Geometry Review for Final - Fall 2013

For the given figure, find the value of  $x$  and the measure of angle 1.



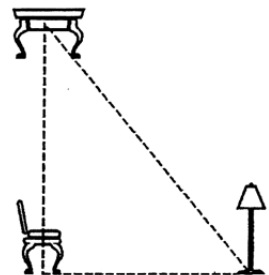
3. Find the lengths of segments  $AB$  and  $BC$  in the given situation.



$$\overline{AB} = x + 16, \overline{BC} = 5x + 10, \overline{AC} = 56$$

4. Solve:  $\overline{MO}$  bisects  $\angle LMN$ ,  $m\angle LMO = 13x - 24$ , and  $m\angle NMO = x + 84$ . Solve for  $x$  and find  $m\angle LMN$ .

5. A stage is set according to the following specifications. A chair is placed at point A, a table at point B, and the lamp at point C. If the distance from A to B is 8 feet and the distance from A to C is 7 feet, what is the distance from the table (point B) to the lamp (point C)?

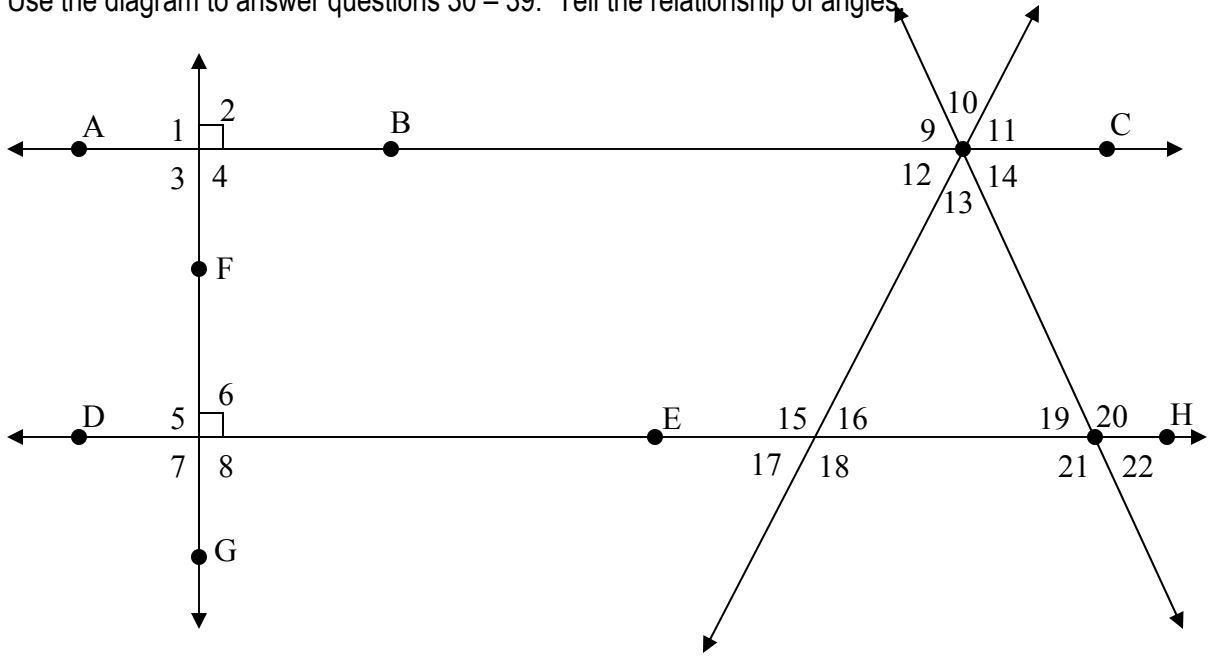


6. Consider the pattern of numbers shown below.

1  
131  
13531  
1357531

Use inductive reasoning to determine the line in the pattern.

Use the diagram to answer questions 30 – 39. Tell the relationship of angles:



- |                         |                              |
|-------------------------|------------------------------|
| a. linear pair          | l. complementary angles      |
| b. acute angle          | m. alternate interior angles |
| c. obtuse angle         | n. same side interior angles |
| d. corresponding angles | o. no relationship           |
| e. supplementary angles |                              |
| f. right angle          |                              |
| g. vertical angles      |                              |
| h. perpendicular lines  |                              |
| i. collinear points     |                              |
| j. ray                  |                              |
| k. parallel lines       |                              |

- |                                |   |
|--------------------------------|---|
| 7. $\overrightarrow{BA}$       | 12. $\angle 15$ and $\angle 18$                     |
| 8. $\angle 11$                 | 13. $\angle 19$ and $\angle 20$                     |
| 9. $\angle 12$ and $\angle 20$ | 14. $\angle 16$ and $\angle 21$                     |
| 10. A, B, and C                | 15. $\angle 3$ and $\angle 5$                       |
| 11. $\angle 3$ and $\angle 7$  | 16. $\overrightarrow{AB}$ and $\overrightarrow{FG}$ |

Identify which property makes the following statements true:

- (a) Reflexive (b) Symmetric (c) Transitive (d) Segment Addition property

17. If  $x + 12 = 17$  and since  $y = 17$ , then  $x + 12 = y$ .  
 18. If A, B, and C are consecutive points on a line, then  $AB + BC = AC$   
 19. If  $WS = NL$ , then  $NL = WS$   
 20. If 4, then  $4 = 4$ .

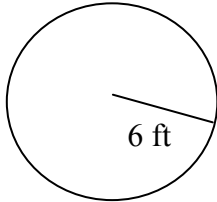
Tell whether the following is the inverse, converse, contrapositive, or none for the following statement:

"If a figure is a parallelogram, then opposite sides are parallel."

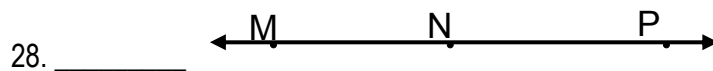
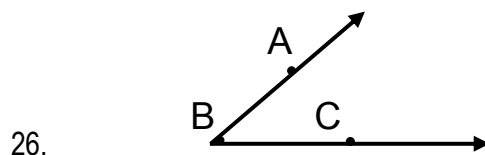
- (a) inverse      (b) converse      (c) contrapositive      (d) none of the above

21. If opposite sides are not parallel, then the figure is not a parallelogram  
22. If a figure is not a parallelogram, then opposite sides are not parallel.  
23. If opposite sides are parallel, then the figure is not a parallelogram  
24. If opposite sides are parallel, then the figure is a parallelogram.
- 

25. Find the area and circumference of the circle. Leave in terms of  $\pi$ .



Use correct notation to name the following.



Sketch an example of each of the following.

29. noncollinear points  $D, E, F$  in a plane  $W$

30.  $\overline{RM}$  in plane  $A$

31.  $\overline{FG}$  and  $\overline{DE}$  intersect in point  $C$

32. Find the measure of the complement of  $\angle F$ , where  $m\angle F = 78.9^\circ$

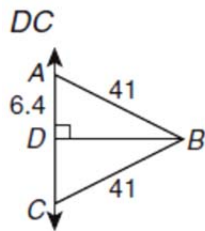
33. An angle measure is 3 degrees more than 2 times its supplement. Find the measure of its supplement.  
 [Hint: If the angle is  $x$ , then its supplement is  $(180 - x)$ ]

34. \_\_\_\_\_ Write an equation in point-slope form for the perpendicular bisector of the segment with endpoints  $X(3, -1)$  and  $Y(5, 7)$ .

**KNOW THE FOLLOWING TERMS:**

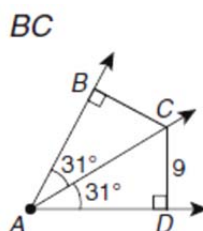
*Perpendicular Bisector*  $\longrightarrow$  *Point of concurrency*  $\longrightarrow$  *Circumcenter*  $\longrightarrow$  *Equidistant from vertices*  
*Angle Bisectors*  $\longrightarrow$  *Point of concurrency*  $\longrightarrow$  *Incenter*  $\longrightarrow$  *Equidistant from sides*  
*Median*  $\longrightarrow$  *Point of concurrency*  $\longrightarrow$  *Centroid*  $\longrightarrow$   $\frac{2}{3}$  *distance from vertex*  
*Altitudes*  $\longrightarrow$  *Point of concurrency*  $\longrightarrow$  *orthocenter*

35. Find DC.



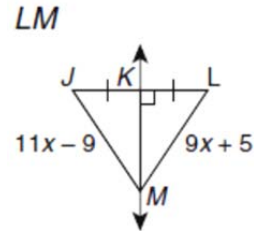
\_\_\_\_\_

36. Find BC.



\_\_\_\_\_

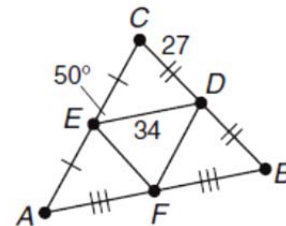
37. Find LM.



\_\_\_\_\_

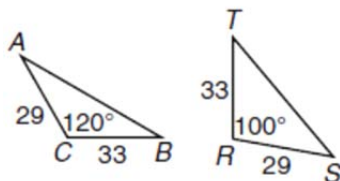
38. Find the following:

- a.  $EF$  \_\_\_\_\_  
 b.  $AB$  \_\_\_\_\_  
 c.  $m\angle EDF$  \_\_\_\_\_



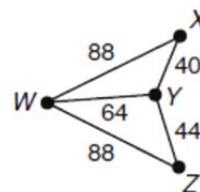
- 39.

Compare  $AB$  and  $ST$ .



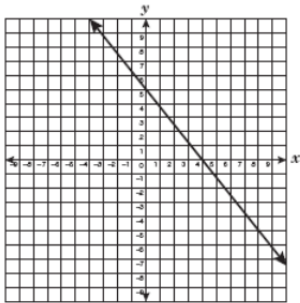
- 40.

Compare  $m\angle XWY$  and  $m\angle ZWY$ .



41. What is the slope of the function  $9x - 3y = 24$ ? (hint: write in slope-intercept form)

42. What is the apparent slope of the line graphed below and a point on the graph?



M = \_\_\_\_\_

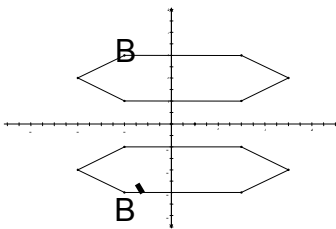
Point: (     ,     )

43. A figure is translated  $(x, y) \rightarrow (x - 5, y + 4)$ . What translation would move the image back to its original position?

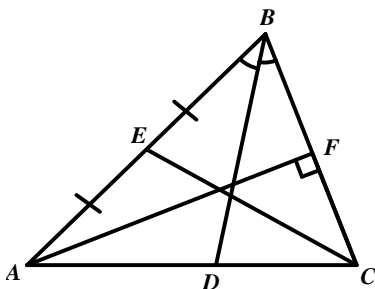
44-46: Matching. Some answered may be used more than once

A	translation	b	Rotation	C	reflection	d	dilation
44.	a transformation that slides each point of a figure the same distance in the same direction						
45.	a transformation that is an enlargement or reduction of a figure						
46.	a transformation in which each point of a figure is flipped across a line to form the image						

47. Which kind of transformation is shown in the figure?



48-52: Use the figure below to answer the following questions.



48. Name an angle bisector shown in  $\triangle ABC$ . \_\_\_\_\_

49. Name a median shown in  $\triangle ABC$ . \_\_\_\_\_

50. Name an altitude shown in  $\triangle ABC$ . \_\_\_\_\_

51. If  $EB = 12.5$  cm, find  $AB$ . \_\_\_\_\_

52. If  $m\angle ABD = 34.3^\circ$ , find  $m\angle ABC$ . \_\_\_\_\_

(53-55) Tell whether a triangle can be formed with the following three lengths...and if so, is the triangle right, obtuse, or acute?

53. lengths 4, 12, and 5.

54. lengths 1, 2, and 4.

55. lengths 8, 2, and 7.

56. The lengths of two sides of a triangle are 6 inches and 15 inches. Find the range of possible lengths for the third side,  $s$ .

57. Find the value of  $x$ . Express your answer in simplest radical form.

