

**GEOMETRY LEVEL 2  
FINAL EXAM 2004  
PART ONE (1 POINT EACH)**

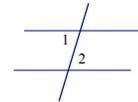
Match the appropriate definition/illustration for each term by writing its letter in the space provided. Not all letters are used.

- |                                   |   |
|-----------------------------------|---|
| 1. ___ Hexagon                    | A. The perimeter of a circle  |
| 2. ___ Rhombus                    | B. A pair of figures whose corresponding sides are <u>proportional</u> and whose corresponding angles are equal |
| 3. ___ Supplementary angles       | C. A pair of figures whose corresponding sides are <u>equal</u> and whose corresponding angles are equal        |
| 4. ___ Complementary angles       | D. A pair of angles whose sum is $90^\circ$   |
| 5. ___ Median                     | E. A seven-sided polygon  |
| 6. ___ Cone                       | F. A six-sided polygon  |
| 7. ___ Circumference              | G. A four-sided polygon with all equal sides  |
| 8. ___ Trapezoid                  | H. A pair of angles whose sum is $180^\circ$  |
| 9. ___ Prism                      | J. A four-sided figure with one pair of parallel sides and one pair of non-parallel sides                       |
| 10. ___ Similar figures           | K. The line joining one vertex of a triangle to the midpoint of the opposite side                               |
| 11. ___ Alternate interior angles |   |
| 12. ___ Corresponding angles      |   |
| 13. ___ Congruent figures         |   |

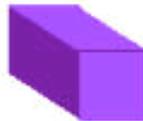
L.



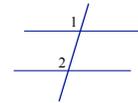
O.



M.



P.

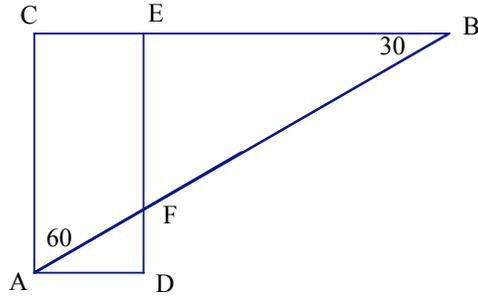


N.



## GEOMETRY LEVEL 2 FINAL EXAM 2004

Use the diagram below for problems #14- #16

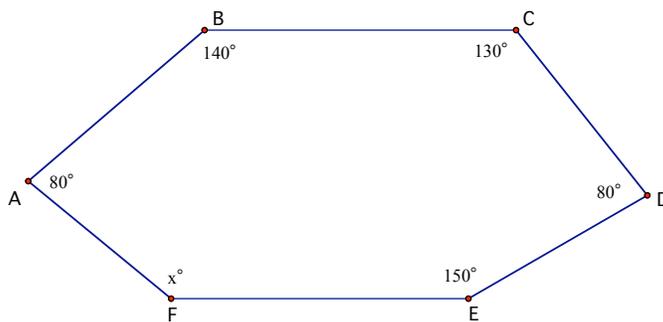


14. If  $\angle AFD \cong \angle CAF$ , then find the measure of  $\angle EFB$ . \_\_\_\_\_

15. If  $\angle AFD \cong \angle CAF$ , name two line segments that must be parallel. \_\_\_\_\_ and \_\_\_\_\_

16. If  $\overline{CA} \perp \overline{CB}$ , then find the measure of  $\angle ACB$ . \_\_\_\_\_

17. In the figure below, find the value of  $x$ . Show your equation. \_\_\_\_\_

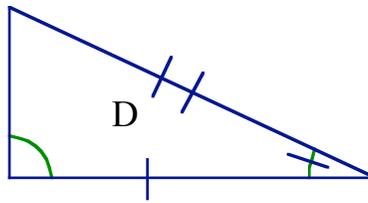
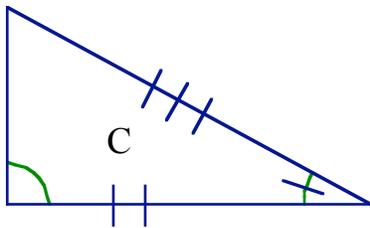
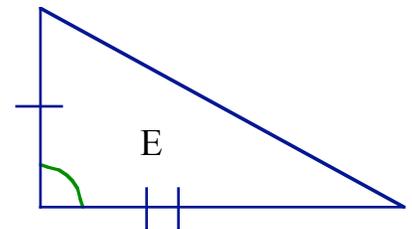
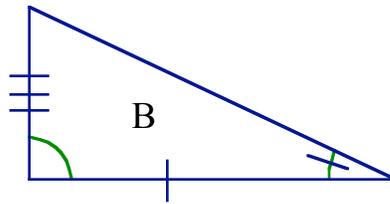
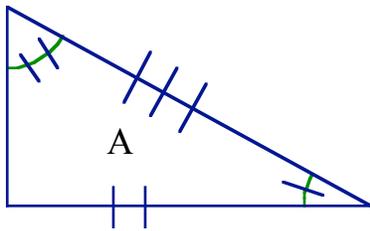


## GEOMETRY LEVEL 2 FINAL EXAM 2004

For following 2 problems determine which triangles are congruent by the given reason:

18. Which two triangles are congruent by ASA? \_\_\_\_\_ and \_\_\_\_\_

19. Which two triangles are congruent by SAS? \_\_\_\_\_ and \_\_\_\_\_



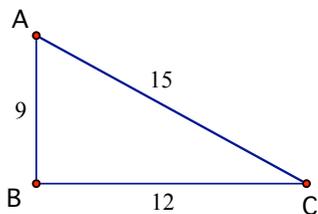
20. Determine the type of triangle.

a) acute      b) right      c) obtuse      \_\_\_\_\_



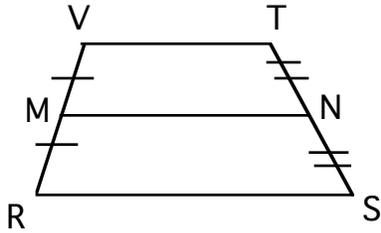
21. Determine the smallest angle.

a)  $\angle A$       b)  $\angle B$       c)  $\angle C$       \_\_\_\_\_



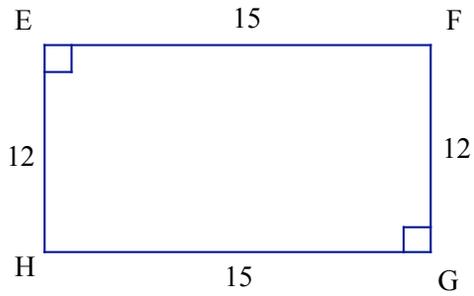
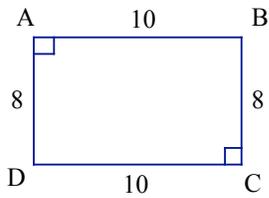
# GEOMETRY LEVEL 2 FINAL EXAM 2004

22. Use the diagram below.  $VT = 9$  and  $RS = 13$   
Find  $MN$ .




---

- Use the diagram below for problems #23 - #24.  
Find each ratio in simplest form.



23.  $\frac{AB}{EF}$

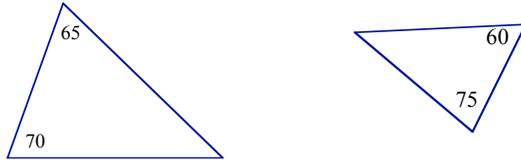
---

24.  $\frac{\text{perimeter of } ABCD}{\text{perimeter of } EFGH}$

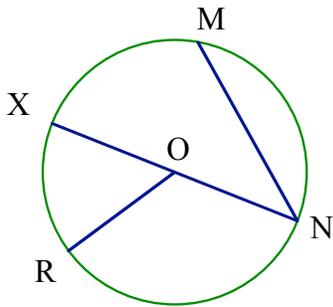
---

**GEOMETRY LEVEL 2  
FINAL EXAM 2004**

25. Tell whether or not the polygons are similar. Write 'yes' or 'no' .



For problems #26- #28 use the diagram below. O is the center of the circle.



26. Name a diameter and find its length if  $OR = 5$ .      Diameter: \_\_\_\_\_  
length: \_\_\_\_\_
27. Name a radius. \_\_\_\_\_
28. Find the circumference of the circle if  $OR = 5$ . \_\_\_\_\_

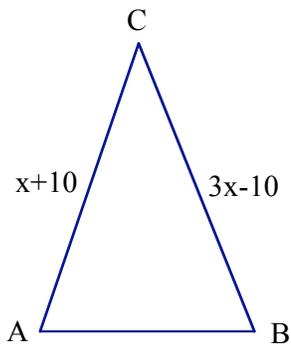
**GEOMETRY LEVEL 2  
FINAL EXAM 2004**

**PART TWO (2 POINTS EACH)**

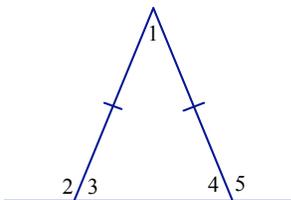
Partial credit WILL be given for work shown. NO CREDIT will be given for answers that cannot be read.

29. If the measures of the angles of a triangle are represented by  $x$ ,  $2x$ , and  $2x + 20$ , what is the value of  $x$ ? \_\_\_\_\_

30. Use the following diagram. If  $\angle A \cong \angle B$ , find  $x$ . \_\_\_\_\_



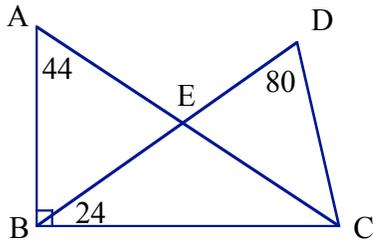
31. If  $m\angle 2 = 125^\circ$ , then what is the  $m\angle 1$ ? \_\_\_\_\_



**GEOMETRY LEVEL 2  
FINAL EXAM 2004**

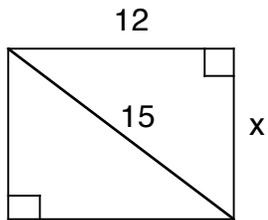
32. In the diagram below, find the measure of  $\angle DCA$ .

\_\_\_\_\_

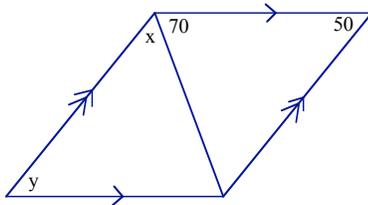


33. Solve for x:

\_\_\_\_\_



For problems 34 and 35, use the diagram below.



34. Find x.

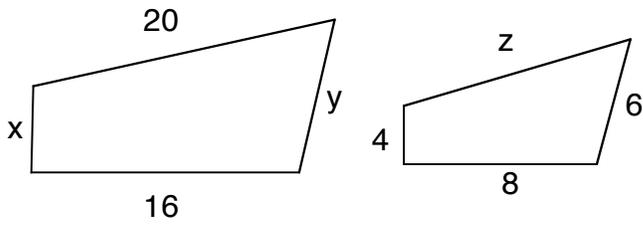
\_\_\_\_\_

35. Find y.

\_\_\_\_\_

**GEOMETRY LEVEL 2  
FINAL EXAM 2004**

Use the diagram below for problems 36 - 38. The two polygons are similar.



36. Find  $x$ .

\_\_\_\_\_

37. Find  $y$ .

\_\_\_\_\_

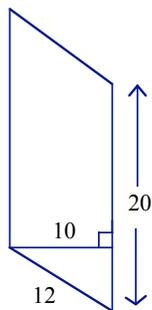
38. Find  $z$

\_\_\_\_\_

---

39. Find the area of the parallelogram.

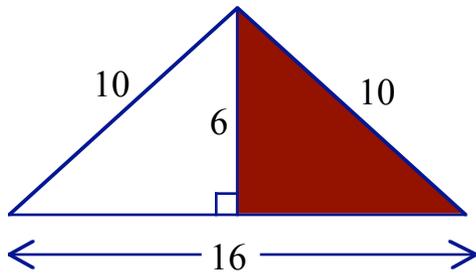
\_\_\_\_\_



**GEOMETRY LEVEL 2  
FINAL EXAM 2004**

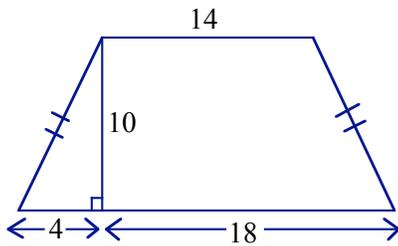
40. Find the area of the shaded region

---



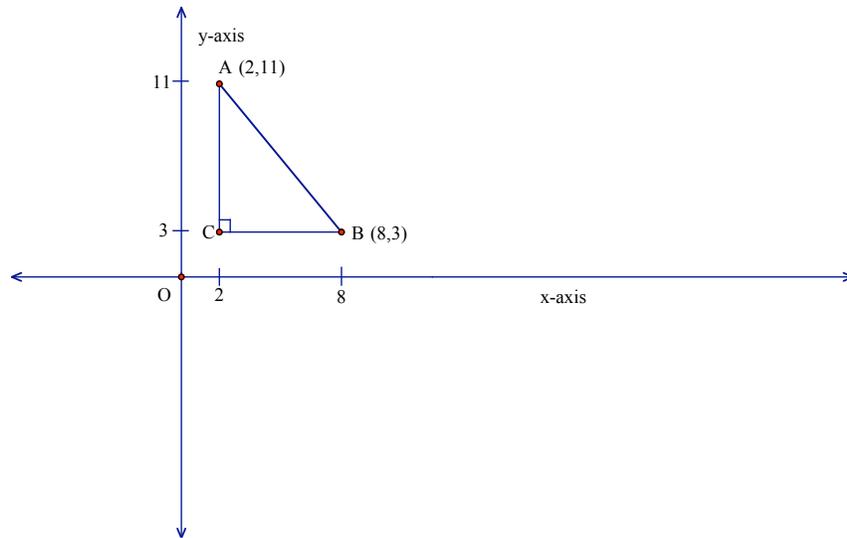
41. Find the area of the trapezoid.

---



**GEOMETRY LEVEL 2  
FINAL EXAM 2004**

In the figure below, if  $\overline{AC} \perp$  to the y-axis and  $\overline{CB} \perp$  to the x-axis, find the following



42. the coordinates of C \_\_\_\_\_

43. AC and CB \_\_\_\_\_ and \_\_\_\_\_

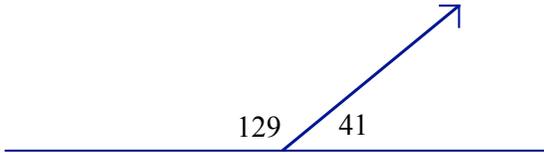
44. The midpoint of  $\overline{AB}$  \_\_\_\_\_

45. the perimeter of  $\triangle ABC$  \_\_\_\_\_

**GEOMETRY LEVEL 2  
FINAL EXAM 2004**

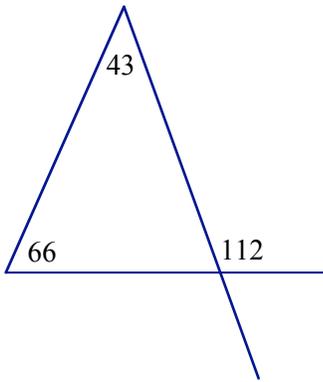
For problems 46 – 48, explain what is wrong with each of the pictures.

46.



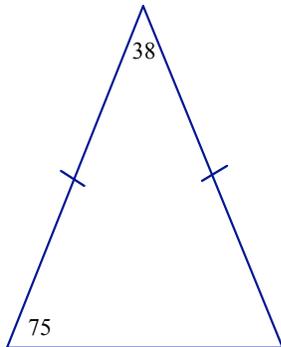
---

47.



---

48.



---

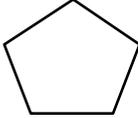
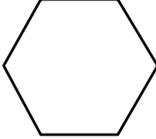
## GEOMETRY LEVEL 2 FINAL EXAM 2004

For each pair of geometric terms listed below,

- Explain the difference between them.
- Draw a pair of pictures illustrating the difference.

An example problem is shown.

Example: pentagon vs. hexagon

<p><b>The difference between them:</b></p> <p>A pentagon has 5 sides but a hexagon has 6 sides.</p>	<p><b>Pictures illustrating the difference:</b></p> <div style="display: flex; justify-content: space-around; align-items: center;"><div style="text-align: center;"><p>pentagon</p></div><div style="text-align: center;"><p>hexagon</p></div></div>
---	--

49. isosceles triangle vs. scalene triangle

<p>The difference between them:</p>	<p>Pictures illustrating the difference:</p>
-------------------------------------	--

**GEOMETRY LEVEL 2  
FINAL EXAM 2004**

50. rectangle vs. rhombus

The difference between them:	Pictures illustrating the difference:
------------------------------	---------------------------------------

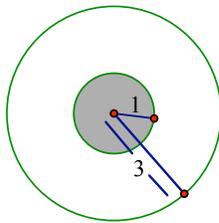
51. convex quadrilateral vs. concave quadrilateral

The difference between them:	Pictures illustrating the difference:
------------------------------	---------------------------------------

**GEOMETRY LEVEL 2  
FINAL EXAM 2004**

52. Ralph designed a target computer game. On his screen the circular targets look like the circular areas shown below. If the computer randomly generates a dot that lands within the circular areas, what is the approximate probability that the dot will land in the shaded area?

a.  $\frac{1}{8}$       b.  $\frac{1}{9}$       c.  $\frac{1}{3}$       d.  $\frac{1}{4}$       e.  $\frac{1}{7}$



---

53. The circular field house floor is 200 feet in diameter. If you have to run one lap around the circumference, how far would you have to run?

---

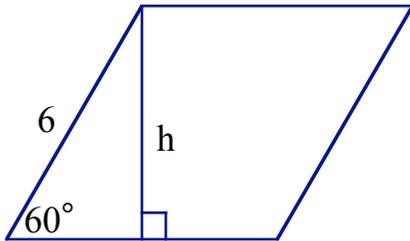
54. A one foot square floor tile (1 ft x 1 ft) costs \$1.00 per square foot. How much would it cost to tile a classroom floor 20 ft long and 15 ft wide? Show all work.

---

**GEOMETRY LEVEL 2  
FINAL EXAM 2004**

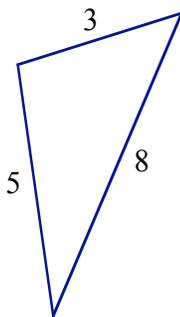
55. The rhombus below is a glass panel for a door. How many square inches of colored glass will you need for the panel? Show work.

\_\_\_\_\_



56. Given the measurements of the sides of the triangle, explain what is contradictory about the measurements.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



**GEOMETRY LEVEL 2  
FINAL EXAM 2004**