

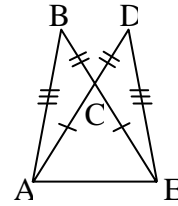
**Geometry AB**  
**Review for Final Exam**

Name \_\_\_\_\_

**NOTE: Figures are not necessarily drawn accurately.**

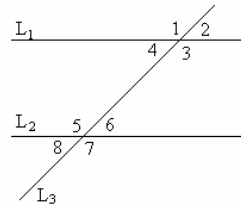
1) In  $\triangle ABC$ , if  $AB = BC$  and  $m\angle A = 61^\circ$ , what is the measure of  $\angle B$ ?

2) Complete the sentence: In the figure given,  $\triangle ABC \cong$  \_\_\_\_\_.

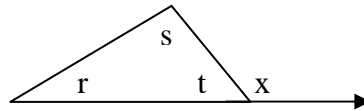


3) Why is CPCTC used?

4) In the figure given,  $L_1 \parallel L_2$ , and  $L_3$  is a transversal. Name all the congruent sets of angles and why.



5) In the diagram, what is the measure of angle  $s$ ?

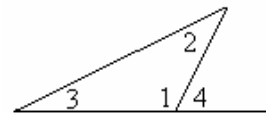


6) Complete each sentence:

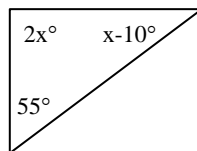
- The consecutive interior angles made by a transversal through a pair of parallel lines are \_\_\_\_\_.
- The alternate interior angles made by a transversal through a pair of parallel lines are \_\_\_\_\_.
- The consecutive exterior angles made by a transversal through a pair of parallel lines are \_\_\_\_\_.
- The alternate exterior angles made by a transversal through a pair of parallel lines are \_\_\_\_\_.

7) What is the distance between point A (5, 1) and point B (9, -2)?

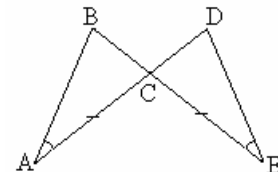
8) In the diagram,  $m\angle 2 = 55^\circ$ ,  $m\angle 3 = 35^\circ$ . What is  $m\angle 4$ ?



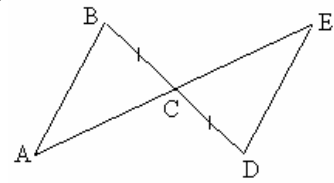
9) In the figure, what is the value of  $x$ ?



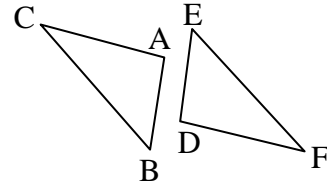
10) Given the figure,  $\angle A \cong \angle E$ , and  $\overline{AC} \cong \overline{CE}$ , prove that  $\triangle CAB \cong \triangle CED$ ?



- 11) Given that  $BC = CD$ , what must be true to prove that  $\triangle ABC \cong \triangle EDC$  by the SAS Congruence Postulate?

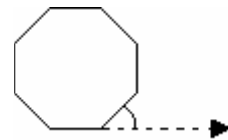


- 12) In the diagram,  $\angle B \cong \angle E$  and  $\angle C \cong \angle F$ . What must be true to prove that  $\triangle ABC \cong \triangle DEF$  by the ASA Congruence Postulate?

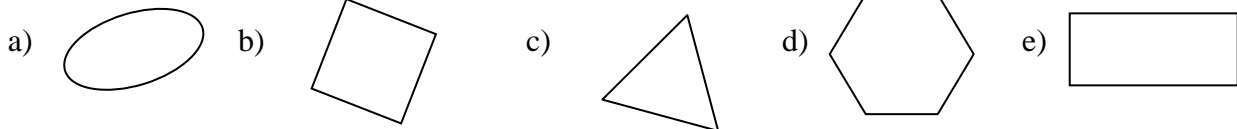


- 13) Describe the relationship of the acute angles of a right triangle.

- 14) What is the measure of each exterior angle of a regular octagon?

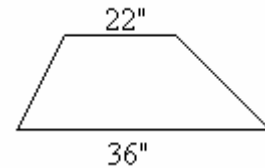


- 15) Identify and name the polygons which appear to be regular.

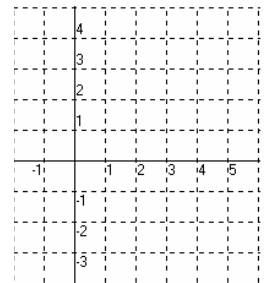


- 16) What is the sum of the measures of the interior angles of a regular convex pentagon?

- 17) The parallel sides of a trapezoid have a length of 22" and 36" respectively. What is the length of the midsegment of the trapezoid?



- 18) On a coordinate system, opposite corners of a parallelogram are located at (2,3) and (3,1). If the third corner is at (0,0), where is the fourth corner located?



- 19) Write a description of the relationship of the opposite angles of a parallelogram.

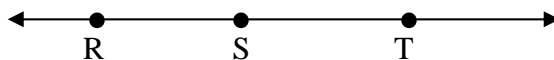
- 20) Name the different theorems that can be used to prove the congruence of triangles.

21) Describe the difference between a convex polygon and a non-convex polygon. Show an example of each.

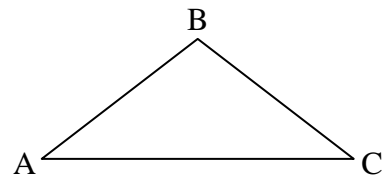
22) Describe each of the following types of figures. (You may use a sketch.)

- a) The figure has line symmetry.
- b) The figure has rotational symmetry.
- c) The figure has line symmetry, but not rotational symmetry.

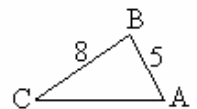
23) In the diagram,  $RS = 2x + 1$ ,  $ST = x - 1$  and  $RT = 18$ . What is the measure of  $RS$ ?



24) Given  $\triangle ABC$  with  $AB = BC$  and  $AC > BC$ , what is the relationship of the angles to each other?



25) In  $\triangle ABC$ , if  $AB = 5$  and  $BC = 8$ , write an inequality statement that describes the possible measures of  $AC$ .

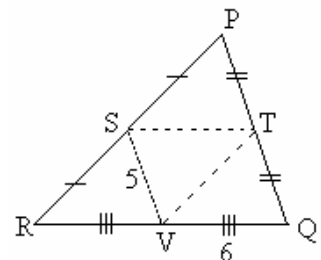


26) If  $\overline{PR}$  is an altitude of  $\triangle PQR$ , then what must be true about  $\triangle PQR$ ?

27) In a triangle, what is the segment that connects the midpoints of two sides?

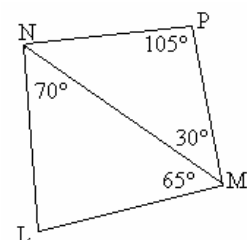
28) At which point do the medians of a triangle all meet?

29) In the diagram, if  $VS = 5$  and  $VQ = 6$ , then what is the measure of  $\overline{ST}$ ?



30) If a circle is inscribed in a triangle, what three segments of the triangle will intersect in center of the circle?

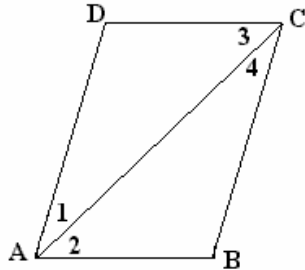
31) In the figure given, which of the following is the longest side of the figure?



32) What are the missing steps to complete the proof?

Given:  $\overline{AB} \parallel \overline{DC}$ ,  $\overline{AB} \cong \overline{DC}$

Prove:  $\overline{AD} \cong \overline{BC}$



Statements

1.  $\overline{AB} \parallel \overline{DC}$ ,  $\overline{AB} \cong \overline{DC}$

2. \_\_\_\_\_

3.  $\overline{AC} \cong \overline{AC}$

4.  $\triangle ACD \cong \triangle CAB$

5.  $\overline{AD} \cong \overline{BC}$

Reasons

1. Given

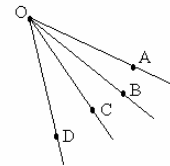
2. If two parallel lines are cut by a transversal, the alternate interior angles are congruent

3. Reflexive Property

4. \_\_\_\_\_

5. CPCTC

33) In the diagram, C is an interior point for which of these angles?



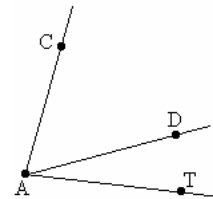
34) If the three interior angles of a triangle are each  $60^\circ$ , what type of triangle is formed?

35) What is the slope of every line that is perpendicular to  $y = -\frac{1}{2}x + 3$ ?

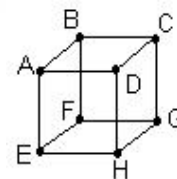
36) What term describes the relationship of a full-size house and a scale model of the house?

37) If A (-1, -3) and B (5, -3), what are the coordinates of the a) midpoint and the b) slope?

38) In the diagram,  $m\angle CAT = 60^\circ$ . If  $m\angle CAD$  is three times  $m\angle DAT$ , what is the measure of  $\angle DAT$ ?



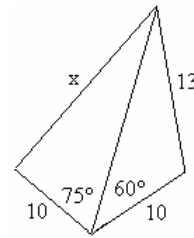
39) In the diagram, which of the following is skew to  $\overline{AB}$ ?



40) What methods can be used to prove that a quadrilateral is a square?

- 41) The floor plan of a room is drawn in a scale of  $\frac{1}{16}$  in = 1 ft. If the scale drawing has a width of 1 in and a length of  $1\frac{3}{4}$  in, what are the dimensions of the room?

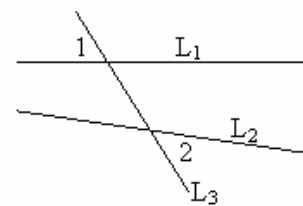
- 42) For the given figure, what are possible measures of  $x$ ?



- 43) Which property of equality is demonstrated by the statement:  
If  $PQ = 3$  and  $PQ + RS = 5$ , then  $3 + RS = 5$ .

- 44) If the sides of two adjacent angles form two opposite rays, what term describes the angles?

- 45) In the diagram, what describes the relationship of  $\angle 1$  and  $\angle 2$  ?



- 46) If  $\angle A$  and  $\angle B$  are a linear pair, and  $m\angle A = 67^\circ$ , then what is  $m\angle B$ ?

- 47) “If  $x < 0$ , then  $x$  is a negative number.” What is the underlined part of the statement called?

- 48) What conclusion can be drawn if  $L_1 \parallel L_2$  and  $L_2 \parallel L_3$ ?

- 49) What is the slope of each line parallel to  $y = 2x + 3$  ?

- 50) If  $\angle A$  and  $\angle B$  are supplementary,  $\angle A$  and  $\angle C$  are vertical, and  $m\angle B = 72^\circ$ , what is  $m\angle C$ ?