

Geometry (H)  
Chapter 6 Review 1

Name: \_\_\_\_\_

1. Find the possible values of  $x$  that would form a triangle with the given side lengths.

$$8, 3 + x, 10 - x$$

2. List the angles in order of size from smallest to largest, given the coordinates of  $\triangle CAT$ .

$$C(3,-2)A(-4,7)T(-5,-6)$$

3. Quadrilaterals  $ABCD$ , with diagonal  $AC$  has  $AB = AC = AD$ ,  $m\angle DCA = 50$  and  $m\angle ACB = 55$ .

Which side is longer,  $CD$  or  $BC$ ? Why?

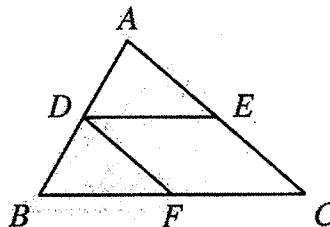
Do the following proofs a separate sheet of paper.

4. Write a flow proof.

Given: D is the midpoint of  $\overline{AB}$

$\overline{AE} \cong \overline{BF}$ ,  $AC < BC$

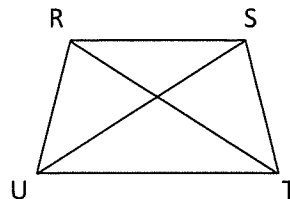
Prove:  $DF < DE$



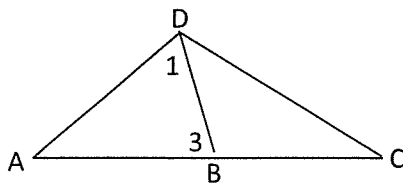
5. Write an indirect proof.

Given: RSTU is a trapezoid with bases  $\overline{RS}$  and  $\overline{UT}$

Prove:  $\angle U$  and  $\angle T$  are not both right angles



6. Use the diagram below to complete each statement with the correct symbol:  $<$ ,  $>$ ,  $=$ .



- a.  $AD = DC$ .  $AD$  \_\_\_\_\_  $DB$
- b.  $AB = BC$ ,  $m\angle 1 = 50$ ,  $m\angle A = 70$ .  $AD$  \_\_\_\_\_  $DC$
- c.  $AD = BD$ .  $DC$  \_\_\_\_\_  $AD$