**6-13.** **Examine** the relationships that exist in the diagram below. Find the measures of angles *a* , *b* , *c* , and *d*. Remember that you can find the angles in any order, depending on the angle relationships you use.



**6-14.** **Examine** the triangles below. For each one, solve for *x* and name which **tool** you used. Show all work.

1. 
2. 
3. 

**6-15.** The two shapes at right are similar.

1. Find the value of *x*. Show all work.
2. Find the area of each shape.

**6-16.** On graph paper, graph Δ*ABC* if A(−2, 7), B(−5, 8), and C(−3, 1).

1. Reflect Δ*ABC* across the *x* -axis to form Δ*A′B′C*′. Name the coordinates of each new vertex.
2. Now rotate Δ*A′B′C*′ from part (a) 180° about the origin (0, 0) to form Δ*A″B″C*″. Name the coordinates of each new vertex.
3. Describe a single transformation that would change Δ*ABC* to Δ*A″B″C*″.

**6-17.** Solve the problem below using any method. Show all work.

Angle *A* of Δ*ABC* measures 5° more than 3 times the measure of angle *B* . Angle *C* measures 20° less than angle *B* . Find the measure of angles *A*, *B*, and *C*.

**6-18.** **Multiple Choice:** Which list of side lengths below could form a triangle?

1. 2, 6, 7
2. 3, 8, 13
3. 9, 4, 2
4. 10, 20, 30