



Math Olympiad and Problem Solving Programs
E130 - Honors Geometry Problem Solving
Problem Set 4.1 - Congruent Triangles

Name:

Date:

1. $x = 6 \quad y = 8 \quad z = 42$

2. $a = 2 \quad b = 5 \quad c = 8 \quad d = 4 \quad e = 3 \quad f = 6$

3. $a = 24 \quad b = 65 \quad c = 92$

4. 5: $\angle ADH \cong \angle CEG \cong \angle BFJ$.
 $\angle ACG \cong \angle CBJ \cong \angle BAH$
 $\angle ACE \cong \angle CBF \cong \angle BAD$
 $\angle ADH \cong \angle CEG \cong \angle BFJ$
 $\angle AEB \cong \angle CFA \cong \angle BDC$

5. $AE = 4.5 + 22.5 = 27$. We see that the two triangles are congruent. Thus finding the required missing pieces just require matching up corresponding angles and sides. $BE = 22.5 \quad m\angle ABC = 50$

6. $DC = 11 \quad m\angle BAE = 23$