**4.3 HW Congruent Versus Similar Triangles Geometry**

**Directions: Find the information given each set of figures.**

1) ∆ABC ~ ∆DEF 2) ∆GHI $≅$ ∆JKL



a) What is m$∠$A? \_\_\_\_\_\_\_\_\_\_\_\_ a) What is m$∠$K? \_\_\_\_\_\_\_\_\_\_\_\_\_\_

b) What is AC? \_\_\_\_\_\_\_\_\_\_\_\_ b) What is JL? \_\_\_\_\_\_\_\_\_\_\_\_\_

c) What is m$∠$C? \_\_\_\_\_\_\_\_\_\_\_ c) What is GI? \_\_\_\_\_\_\_\_\_\_\_\_\_

d) What is BC? \_\_\_\_\_\_\_\_\_\_\_\_\_ d) What is m$∠$J? \_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Directions: Use the given information to complete each statement.**



3) 4)

 a) ∆AGE $≅$ ∆\_\_\_\_\_\_\_\_\_ by \_\_\_\_\_\_\_\_\_ a) ∆ABE ~ ∆\_\_\_\_\_\_\_\_\_ by \_\_\_\_\_\_\_\_\_

 b) $∠$EGA $≅$ $∠$ \_\_\_\_\_\_\_ because of \_\_\_\_\_\_\_\_\_\_\_ b) $\frac{BE}{?}=\frac{AE}{GL}$ so ? represents this segment \_\_\_\_\_

**Directions: Determine whether there is enough information to prove whether the triangles are similar or congruent. If so, state the theorem or postulate that can be used to prove they are congruent. If not, write neither.**



5) 6) 7)

8) Given: RA is an altitude

 $∠$RYA $≅$ $∠$RNA

 Prove: ∆RYA $≅$ ∆RNA



9) Given: $∠SGK$ $≅$ $∠TBK$

 ∆SKT is isosceles with $∠SKT$as the vertex angle

 Prove: ∆SGT ~ ∆TBS

10) Given: AV = EV

 $\overbar{DV}$ bisects $∠$AVE

 Prove: DE = AD