Directions: Find the information given each set of figures.

1) ΔABC ~ ΔDEF

A, 18, B, C, D, 41°, 12, 10, 30°, E, F, 9
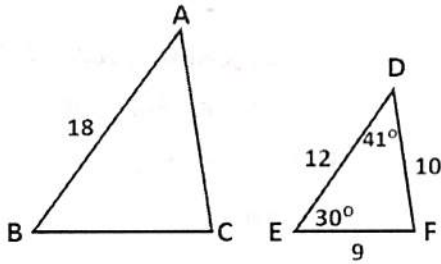
$\frac{18}{12} = \frac{x}{10}$

$12x = 180$

$x = 15$

a) What is m∠A? _____41°_____

b) What is AC? _____15_____

$\frac{18}{12} = \frac{x}{9}$

$12x = 162$

$x = 13.5$

c) What is m∠C? _____109°_____

d) What is BC? _____13.5_____

2) ΔGHI ≅ ΔJKL

K, 40, L, G, 30, 50, J, H, 35°, I
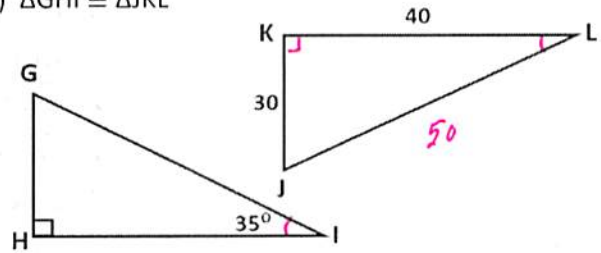
a) What is m∠K? _____90_____

b) What is JL? _____50_____

c) What is GI? _____50_____

d) What is m∠J? _____55°_____

Directions: Use the given information to complete each statement.

3)

E, G, A, M
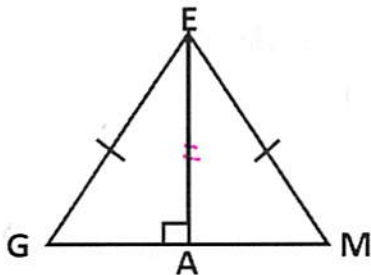
a) ΔAGE ≅ Δ_AME_ by _HL_

b) ∠EGA ≅ ∠ _EMA_ because of _CPCTC_

4)

B, E, L, A, G
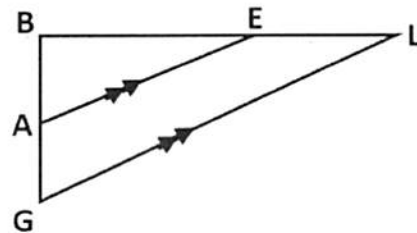
a) ΔABE ~ Δ_GBL_ by _AA ~_

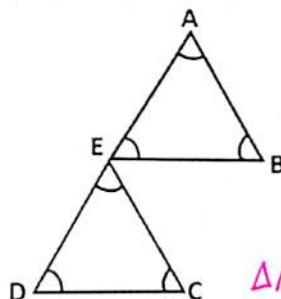b) $\frac{BE}{?} = \frac{AE}{GL}$ so ? represents this segment _BL_

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.
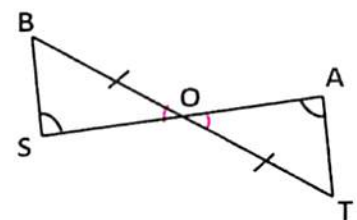
5)

M, O, B, T

NEITHER

ΔMOB ≅ Δ

6)

A, E, B, D, C

ΔAEB ~ ΔDEC

AA ~

7)

B, O, A, S, T
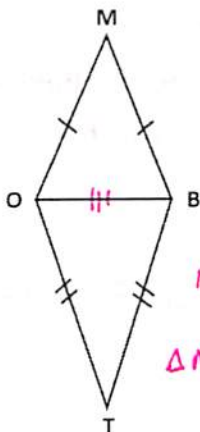
ΔBOS ≅ ΔTOA

AAS

8) Given: RA is an altitude
   ∠RYA ≅ ∠RNA
   Prove: ΔRYA ≅ ΔRNA
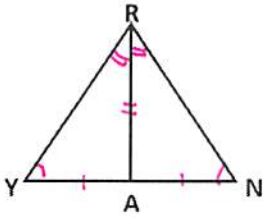
1. RA IS AN ALTITUDE	1. GIVEN
2. ∠RYA ≅ ∠RNA	2. GIVEN
3. $\overline{RA} \cong \overline{RA}$	3. REFLEXIVE PROP of ≅
4. $\overline{YA} \cong \overline{AN}$	4. DEF of ALTITUDE
5. ∠YRA ≅ ∠RNRA	4. DEF of ALTITUDE
6. ΔRYA ≅ ΔRNA	5. AAS

9) Given: ∠SGK ≅ ∠TBK
   ΔSKT is isosceles with ∠SKT as the vertex angle
   Prove: ΔSGT ~ ΔTBS
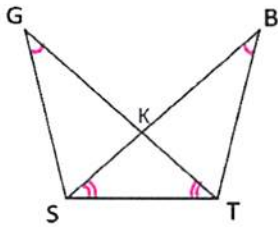
1. ∠SGK ≅ ∠TBK	1. GIVEN
2. ΔSKT IS ISOSCELES W/ ∠SKT AS THE VERTEX ∠	2. GIVEN
3. ∠KST ≅ ∠KTS	3. BASE ANGLE THEOREM
4. ΔSGT ~ ΔTBS	4. AA~

10) Given: AV = EV
    $\overline{DV}$ bisects ∠AVE
    Prove: DE = AD

1. AV = EV	1. GIVEN
2. $\overline{AV} \cong \overline{EV}$	2. DEF of ≅ SEGMENTS
3. $\overline{DV}$ BISECTS ∠AVE	3. GIVEN
4. ∠AVD ≅ ∠EVD	4. DEF of ∠ BISECTOR
5. $\overline{DV} \cong \overline{DV}$	5. REFLEXIVE PROP of ≅
6. ΔAVD ≅ ΔEVD	6. SAS
7. $\overline{DE} \cong \overline{AD}$	7. CPCTC
8. DE = AD	8. DEF of ≅ SEGMENTS