Name: _____ **Class:** _____ **Date:** _____ **ID: A**

Unit 3B: Warm up using congruent statements.

1. Given $\Delta DHZ \cong \Delta KIS$ with $m\angle K = (17x - 150)°$, $m\angle H = (5x + 8)°$, and $m\angle I = (x + 52)°$

   a) Using $\Delta DHZ \cong \Delta KIS$, which angles are congruent?

   b) Find the values of x, $m\angle H$ and $m\angle K$

   x = _____ $m\angle H$ = _____ $m\angle K$ = _____

2. Given $\Delta AEU \cong \Delta DHZ$ with $\overline{AE} = 7x - 12$, $\overline{EU} = 5x + 3$ and $\overline{DH} = 2x + 13$

   a) Using $\Delta AEU \cong \Delta DHZ$, which sides are congruent?

   b) Find the values of x and then the length of $\overline{EU}$

   x = _____ y = _____ z = _____

3. Given $\Delta LJT \cong \Delta CGW$
In ΔLJT: $m\angle L = (-4x - 6)°$, $m\angle T = (2z - 10)°$, $m\angle J = (-5y + 13)°$,
In ΔCGW: $m\angle W = 102°$, $m\angle G = 48°$ and $m\angle C = 30°$

Write the angles that are congurent and then the values of x, y, and z.

x = _____ y = _____ z = _____

4. Given $\Delta KIS \cong \Delta BFV$
In ΔKIS: $\overline{KI} = -3x + 12$, $\overline{IS} = 4y + 20$ $\overline{KS} = 16z + 4$
In ΔBFV: $\overline{BV} = 84$, $\overline{FV} = 72$ and $\overline{BF} = 33$

Write the sides that are conruent and then find the values of x, y, and z.

x = _____ y = _____ z = _____

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Answer Section

SHORT ANSWER

1. ANS:
   $(5x+8)° = (x+52)°$

   $x = 11$ $m\angle H = 63°$ $m\angle K = 20°$

   PTS: 1
2. ANS:
   $7x-12 = 23$ $5x+3 = 58$ $13x-16 = 49$

   $x = 5$ $x = 11$ $x = 5$

   In ΔDHZ: $\overline{DZ} = 49$, $\overline{HZ} = 58$ and $\overline{DH} = 23$

   Given $\Delta AEU \cong \Delta DHZ$
   In ΔAEU: $\overline{AE} = 7x-12$ $\overline{EU} = 5x+3$, and $\overline{AU} = 13x-16$
   In ΔDHZ: $\overline{DH} = 23$ $\overline{HZ} = 58$ and $\overline{DZ} = 49$
   In ΔDHZ: $\overline{DH} = 2x+13$ $\overline{HZ} = 5x+3$ and $\overline{DZ} = 4x+29$

   PTS: 1
3. ANS:
   $(-4x-6)° = 30°$ $(-5y+13)° = 48°$ $(2z-10)° = 102°$

   $x = -9$ $y = -7$ $z = 56$

   PTS: 1
4. ANS:
   $-3x+12 = 33$ $4y+20 = 72$ $16z+4 = 84$

   $x = -7$ $y = 13$ $z = 5$

   PTS: 1