Complete the following sentences:
 (3 pts. each)

1)   The sum of the interior angles of a 9-sided polygon is _____ .

2)   The sum of the interior angles of a 4-sided polygon is _____ .

3)   Two straight lines that lie in the same plane but never intersect are called

        _____ .

4)   When two straight lines intersect they form a total of four (4) angles. Any two of
        these angles, if they are adjacent, are called _____ because the
        sum of these angles equals _____ degrees, and, any two of these angles,
        if they are opposite each other, are _____ .

5)   Two right triangles that have equal angles and unequal, but proportional, sides
        are called: (circle appropriate)
                 a)   similar
                 b)   congruent
                 c)   complimentary
                 d)   all of the above

Convert the following degrees, minutes, seconds to decimal degrees using the
"long-hand method". ***SHOW YOUR WORK !!!***
 (5 pts. each)

6)   57° 15' 23" =

7)   14° 30' 20" =

8)   67° 14' 45" =

9)   38° 58' 10" =

Convert the following decimal degrees to degrees, minutes, seconds using the
"long-hand method". ***SHOW YOUR WORK !!!***
 (5 pts. each)

10)   25.9236° =

11)   117.6864° =

12)   159.9997° =

13)   53.2468° =

Find the average of angles repeated six times in the field with accumulated values as
shown. ***SHOW YOUR WORK !!!***
 (5 pts. each)

14) $\dfrac{259°\ 26'\ 12"}{6}$ =

15) $\dfrac{304°\ 03'\ 00"}{6}$ =

16) $\dfrac{157°\ 24'\ 15"}{6}$ =

17)   The following interior angles were observed in a five-sided polygon. Determine
        the total of the angles (5 pts.) and the angular error of these field measured
        angles (5 pts.).
                                    78° 22' 30"
                                   110° 28' 17"
                                   153° 29' 54"
                                    58° 20' 44"
                                   139° 17' 05"

            total   =   _____   error   =   _____

18)   Based on our "right triangle" class discussion and the sketch shown below…
      put "T" by the true statements and "F" by the false statements below.
      (8 pts. total)

_____ For all right triangles, the sum of the interior angles = $(n+2)180$.

_____ Side "c" squared minus side "b" squared = side "a".

_____ The hypotenuse is always the longest side.

_____ Angle "C" minus angle "A" = angle "B".

_____ All right triangles are congruent.

_____ $(a)^2 + (b)^2 = (c)^2$

_____ Angles "A", "B" & "C" are complimentary.

_____ In similar right triangles…
           as one side increases in length…
           the other sides increase proportionally.
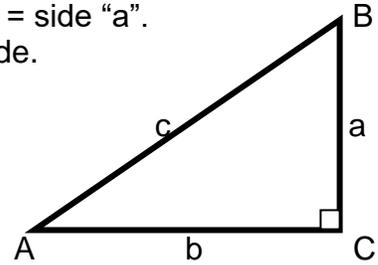
19)   Based on the <u>not</u> <u>to</u> <u>scale</u> sketch below, solve for angle "X".
      All lines are straight. "AB" and "CD" are parallel. "EF" and "GH" are parallel.
        (12 pts.)

angle "X"

131° 45' 00"

152° 30' 15"

40°

Angle "X" = _____