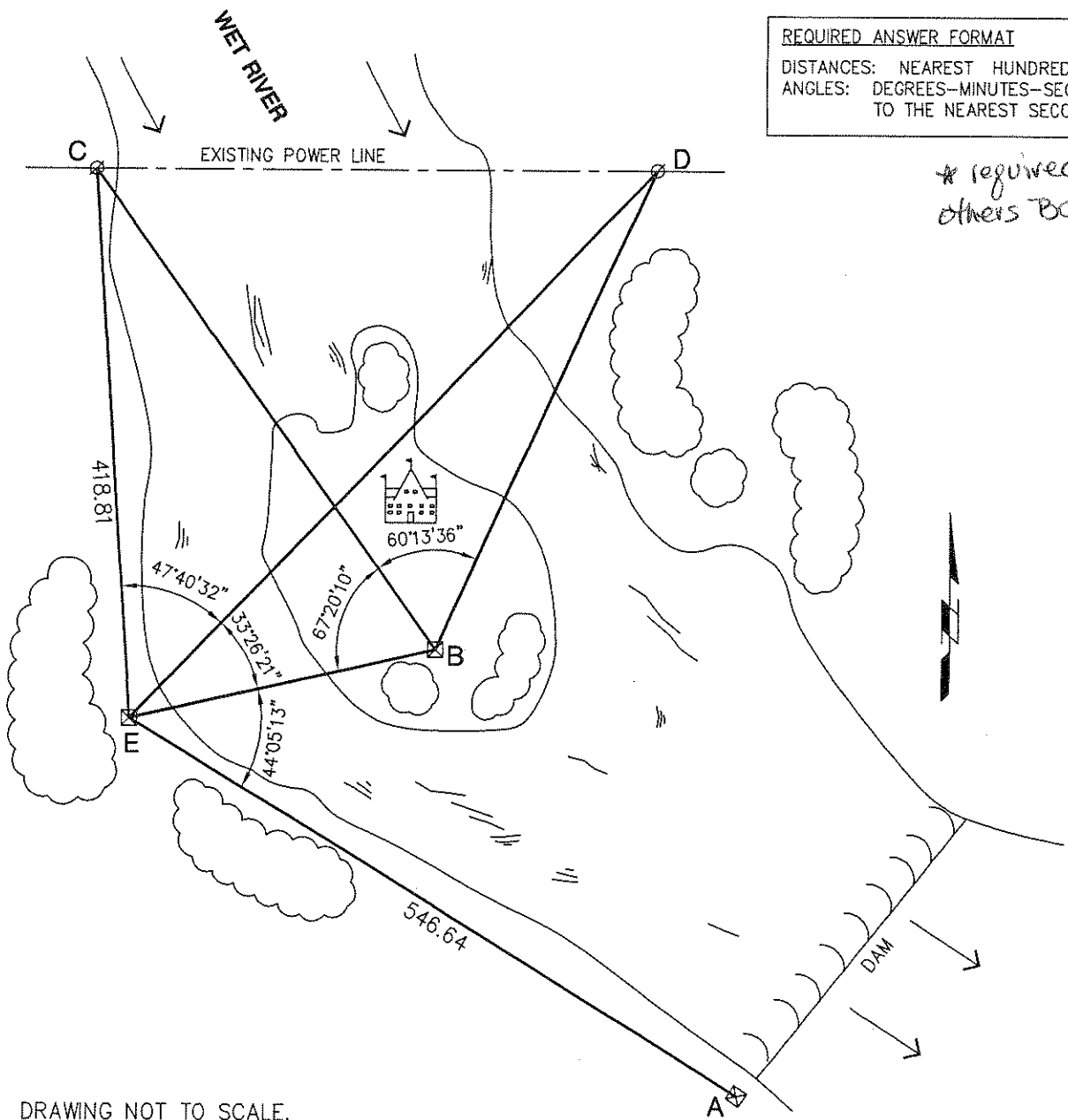


TRIG-STAR PROBLEM 3 LOCAL CONTEST

REQUIRED ANSWER FORMAT
 DISTANCES: NEAREST HUNDREDTH
 ANGLES: DEGREES-MINUTES-SECONDS
 TO THE NEAREST SECOND

** required
 others BONUS!*



DRAWING NOT TO SCALE.

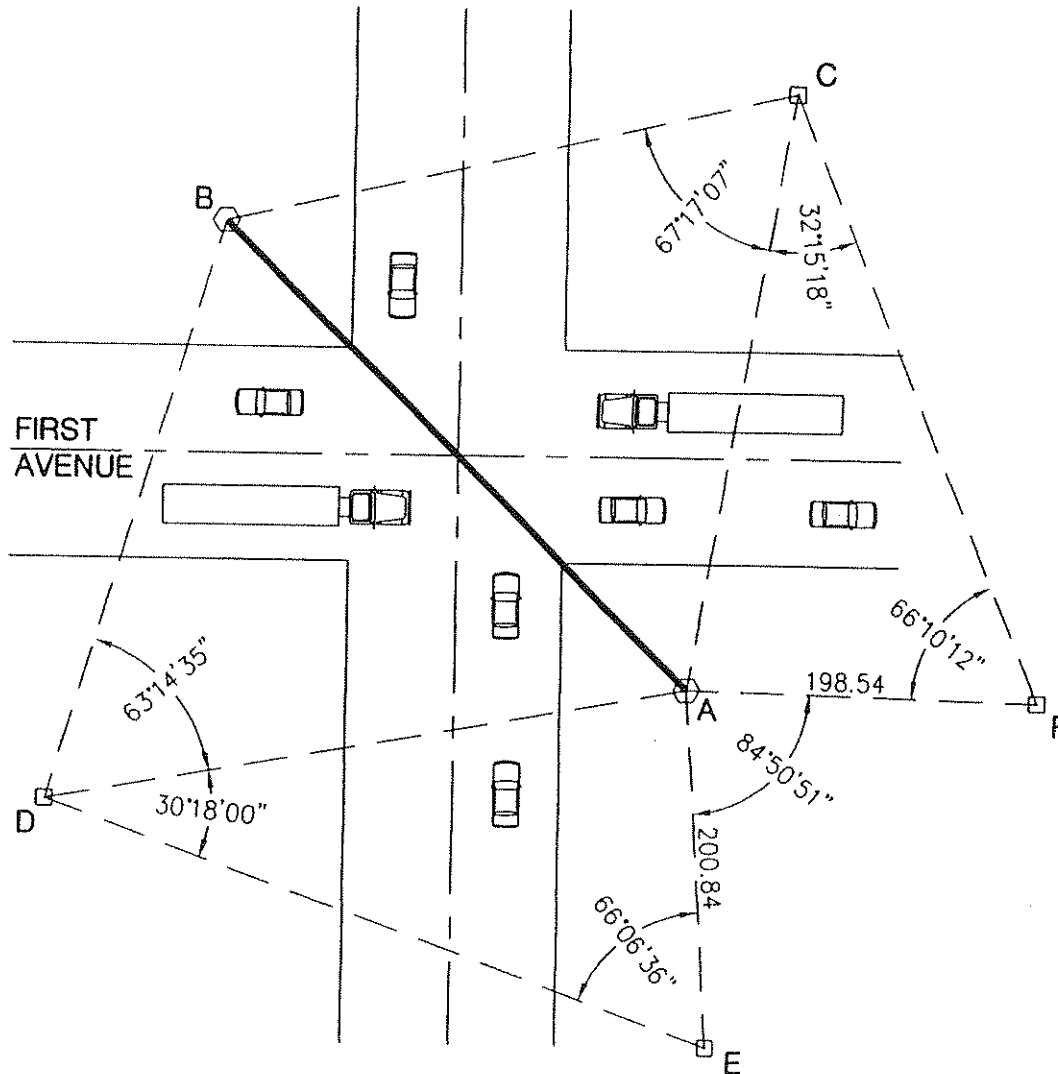
A GROUP OF INVESTORS HAS PLANS TO BUILD A RESORT ON AN ISLAND IN THE WET RIVER. THE ELECTRIC COMPANY WILL SUPPLY POWER TO A TRANSFORMER STATION (Point "B") AT THE RESORT BY CONSTRUCTING A GENERATING PLANT (Point "A") AT THE DAM DOWNSTREAM OF THE RESORT. THE TRANSFORMER STATION WILL NEED TO BE CONNECTED TO AN EXISTING POWER LINE WHICH CROSSES THE RIVER JUST NORTH OF THE ISLAND. USING THE INFORMATION IN THE DIAGRAM THAT WAS OBTAINED BY A SURVEY CREW; FIND THE FOLLOWING DIMENSIONS:

- FIND: DISTANCE AB = _____ (10 POINTS) ✱
- DISTANCE BC = _____ (10 POINTS) ✱
- DISTANCE BD = _____ (10 POINTS) ✱

PAGE TOTAL: _____ POINTS

TRIG-STAR PROBLEM LOCAL CONTEST

A LOCAL TRAFFIC ENGINEERING DEPARTMENT HAS DETERMINED THE NEED FOR AN OVERHEAD SIGNAL LIGHT SYSTEM AT A VERY BUSY INTERSECTION. THE SUPPORT POLES NEED TO BE PLACED AT POINTS A AND B. DUE TO HEAVY TRAFFIC VOLUME, THE FIELD MEASUREMENTS BY THE SURVEY CREW WERE LIMITED TO THE FOLLOWING SKETCH:



- FIND: * DISTANCE AC = _____ (6 POINTS)
 * DISTANCE AD = _____ (6 POINTS)
 DISTANCE DC = _____ (6 POINTS)
 DISTANCE BC = _____ (6 POINTS)
 DISTANCE AB = _____ (6 POINTS)

REQUIRED ANSWER FORMAT
 DISTANCES: NEAREST HUNDREDTH

PAGE TOTAL: _____ POINTS

TRIG-STAR PROBLEM 1-A LOCAL CONTEST

PAGE 1, PROBLEM 1-A

$$\text{DISTANCE AC} = \boxed{72.56}$$

$$\sphericalangle \text{CBA} = \boxed{61^{\circ}30'12''}$$

PAGE 1, PROBLEM 1-B

$$\text{DISTANCE EH} = \boxed{33.44}$$

$$\text{DISTANCE FH} = \boxed{31.81}$$

$$\text{DISTANCE FG} = \boxed{114.79}$$

$$\text{DISTANCE GH} = \boxed{110.29}$$

$$\sphericalangle \text{EGF} = \boxed{16^{\circ}05'18''}$$

PAGE 2

$$\text{DISTANCE AB} = \boxed{86.48}$$

$$\text{DISTANCE AD} = \boxed{139.04}$$

$$\text{DISTANCE AC} = \boxed{155.16}$$

PAGE 3

$$\text{DISTANCE AB} = \boxed{410.76}$$

$$\text{DISTANCE BC} = \boxed{448.41}$$

$$\text{DISTANCE BD} = \boxed{401.98}$$

TRIG-STAR ANSWER KEY LOCAL CONTEST

PAGE 1

$$\sphericalangle CBA = 57^{\circ}57'46''$$

$$\text{DISTANCE AC} = 415.79$$

PAGE 1

$$\sphericalangle EGF = 16^{\circ}55'12''$$

$$\text{DISTANCE EH} = 238.62$$

$$\text{DISTANCE FH} = 213.05$$

$$\text{DISTANCE FG} = 732.04$$

$$\text{DISTANCE GH} = 700.35$$

PAGE 2

$$\text{DISTANCE AB} = 478.25$$

$$\text{DISTANCE AD} = 760.82$$

$$\text{DISTANCE AC} = 864.79$$

PAGE 3

$$\text{DISTANCE AC} = 340.30$$

$$\text{DISTANCE AD} = 363.97$$

$$\text{DISTANCE DC} = 577.02$$

$$\text{DISTANCE BC} = 327.27$$

$$\text{DISTANCE AB} = 370.00$$