Appendix C
Sample Computations

```
PROGRAM GCOGO -- USAE WATERWAYS EXPERIMENT STATION-- 05/19/83 --  7.490
                    - CORPS SYSTEM PROGRAM U0002 -
COORDINATE GEOMETRY ANALYSIS PROGRAM  733-F3-R0 002   REVISED NOV 1981

DATA INPUT FORM --
 ENTER 0 IF IN A TIMESHARING DATA FILE
    OR 1 IF IN RESPONSE TO QUESTIONS FROM THE TERMINAL
         (GCOGO MAY NOT BE RUN IN BATCH)
*0


ANGLE DATA CONVENTIONS --
   QUADRANTS   1 = NE   2 = SE   3 = SW   4 = NW
   SIGN = + TO RIGHT, - TO LEFT
   SELECT AN OPTION DEFINING AZIMUTHS ( 1=POSITIVE CLOCKWISE
   FROM SOUTH, 2=POSITIVE CLOCKWISE FROM NORTH)
*2

EXPONENT OVERFLOW, EXPONENT UNDERFLOW, AND DIVIDE CHECK MESSAGES
PROBABLY INDICATE INCOMPLETE DATA.

ENTER THE FILE DESCRIPTION OF YOUR DATA FILE
*SAMPLE


COMMENT
20                EXAMPLE PROBLEM - PINTLE AND RECESS GEOMETRY


REM
COMMENT
40                PINTLE SET ON PERPENDICULAR FROM CONTACT TO


REM
COMMENT


60                BISECTOR OF WORK LINE ANGLE. RECESSED WORK LINE


REM
COMMENT
80                SET SO TIMBERS ARE FLUSHED WITH LOCK CHAMBER FACE


REM
COMMENT
100               QUOIN CONTACT POINT


CLEAR
BETWEEN POINTS     1  AND   999


STORE


REM
COMMENT
170               MITER CONTACT POINT


LOCATE/AZI

    3     8        61.6667    71    33   54.0
PT.     8     Y=       219.5008     X=       258.5022


AZIMUTH/INT

PT.    14     Y=       200.0000     X=       258.5022


LOCATE/LIN
```

```
   14      3    15          55.0000
PT.    15      Y=        200.0000      X=        203.5022

LOCATE/LIN

   15      3    16           1.2083
PT.    16      Y=        200.0000      X=        202.2939

REM
COMMENT
260                WORK LINE INTERSECTION

AZIMUTH/INT

PT.    17      Y=        200.7646      X=        202.2939

REM
COMMENT
300                 PINTLE LOCATION

AZIMUTH/INT

PT.     1      Y=        201.5913      X=        201.1469

AZIMUTH/INT

PT.     2      Y=        201.1234      X=        201.4978

REM
COMMENT
350                 CHECK FOR ANGLE

ANGLE

CLOCKWISE ANGLE FROM    3, AROUND    1, TO   17, =  270   0   0.0

REM
COMMENT
390                 CHECK FOR RIGHT ANGLE

ANGLE

CLOCKWISE ANGLE FROM    3, AROUND    2, TO    1, =   89  59  59.9

AZIMUTH/INT

PT.    18      Y=        201.5913      X=        200.0000

REM
COMMENT
450                 PINTLE DIST. FROM CONTACT ALONG THRUST LINE

DISTANCE

FROM PT.   2 TO PT.   3  DIST=          1.8723

DISTANCE

FROM PT.   1 TO PT.  18  DIST=          1.1469

DISTANCE
```

```
FROM PT.   3 TO PT.  18  DIST=        1.5913

DISTANCE

FROM PT.   1 TO PT.   2  DIST=        0.5849

AZIMUTH/INT

PT.     4     Y=       200.5032     X=       201.5096

REM
COMMENT
550               PINTLE DIST. FROM WORK LINE

DISTANCE

FROM PT.   1 TO PT.   4  DIST=        1.1469

REM
COMMENT
590                PINTLE DIST. FROM CONTACT ALONG WORK LINE

DISTANCE

FROM PT.   3 TO PT.   4  DIST=        1.5913

REM
COMMENT
630               RECESS GEOMETRY

LOCATE/LIN

    3     2     5        -0.2917
PT.     5     Y=       199.8250     X=       199.7666

LOCATE/AZI

    1     6          3.0000   180     0     0.
PT.     6     Y=       198.5913     X=       201.1469

AZIMUTH/INT

PT.    10     Y=       198.5913     X=       203.5022

AZIMUTH/INT

PT.     7     Y=       198.5913     X=       200.6919

LOCATE/LIN

   10     7    19         9.3333
PT.    19     Y=       198.5913     X=       194.1689

AZIMUTH/INT

PT.    20     Y=       207.2887     X=       194.1689

DISTANCE

FROM PT.   7 TO PT.  10  DIST=        2.8102
```

```
DISTANCE
FROM PT.   7 TO PT.   6  DIST=          0.4550

DISTANCE
FROM PT.   6 TO PT.  10  DIST=          2.3552

DISTANCE
FROM PT.   7 TO PT.  19  DIST=          6.5231

DISTANCE
FROM PT.  19 TO PT.  20  DIST=          8.6974

DISTANCE
FROM PT.   5 TO PT.   7  DIST=          1.5421

STOP
END
DO YOU HAVE MORE DATA TO RUN?
(0 NO, 1 YES )
=0
```