

HP-41C Complete Plane Triangle by George Donaldson  
PPC Calculator Journal Volume 10 No 2 P10 Mar 1983

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01 LBL "PLTRI\0D" ;PLTRI(Angle) (See: V7 N3 P11)
02 LBL E          ;Restart program
03 5
04 LBL 13
05 CF IND X
06 DSE X
07 GTO 13
08 CF 00
09 SF 27
10 CLRG
11 9
12 STO 00
13 3
14 STO 07
15 ADV
16 ADV
17 ADV
18 STOP
19 LBL A          ;Enter Angle A
20 STO 01
21 "\0DA"        ;AngleA
22 0
23 GTO 00
24 LBL B          ;Enter Angle B
25 STO 02
26 "\0DB"        ;AngleB
27 1
28 GTO 00
29 LBL C          ;Enter Angle C
30 STO 03
31 "\0DC"        ;AngleC
32 2
33 GTO 00
34 LBL a          ;Enter Side a
35 STO 04
36 "a"           ;Side a
37 4
38 GTO 00
39 LBL b          ;Enter Side b
40 STO 05
41 "b"           ;Side b
42 8
43 GTO 00
44 LBL c          ;Enter Side c
45 STO 06
46 "c"           ;Side c
47 16
48 LBL 00
49 ST+ 00
50 ">=" "        ;Append equal sign, space
51 ARCL Y
52 AVIEW
53 DSE 07
54 RTN
55 ADV
56 PI
57 R-D
58 RCL 01
59 -
60 RCL 02
61 -
62 RCL 03
63 0
64 STO 07
65 X>0?
66 GTO IND 00
67 LBL 12
```

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68 "NO SOLUTION"
69 AVIEW
70 ADV
71 GTO E
72 LBL 14
73 LBL 15
74 LBL 16
75 17
76 GTO 06
77 LBL 18
78 LBL 19
79 LBL 20
80 21
81 SF 01
82 GTO 06
83 LBL 26
84 LBL 27
85 LBL 28
86 29
87 SF 03
88 LBL 06
89 RCL 00
90 -
91 X<>Y
92 STO IND Y
93 FS? 01
94 XEQ 04
95 FS? 03
96 XEQ 05
97 RCL 02
98 SIN
99 RCL 04
100 RCL 01
101 SIN
102 /
103 *
104 STO 05
105 LASTX
106 RCL 03
107 SIN
108 *
109 STO 06
110 FS?C 01
111 XEQ 05
112 FS?C 03
113 XEQ 04
114 LBL 01
115 2
116 .1
117 "\0DA"      ;AngleA
118 XEQ IND Y
119 "\0DB"      ;AngleB
120 XEQ IND Y
121 "\0DC"      ;AngleC
122 XEQ IND Y
123 " a"        ;Side a
124 XEQ IND Y
125 " b"        ;Side b
126 XEQ IND Y
127 " c"        ;Side c
128 XEQ IND Y
129 3
130 RCL 02
131 SIN
132 RCL 06
133 *
134 "a"          ;Height above base a
135 XEQ IND Y
136 RCL 01
137 SIN

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138 *
139 "b"          ;Height above base b
140 XEQ IND Y
141 RCL 05
142 *
143 "c"          ;Height above base c
144 XEQ IND Y
145 RCL Z
146 2
147 /
148 RCL 06
149 *
150 "A.= "       ;Area of triangle
151 ARCL X
152 XEQ 32
153 ENTER
154 ENTER
155 2
156 *
157 RCL 04
158 /
159 RCL 05
160 /
161 RCL 06
162 /
163 1/X
164 "D = "       ;Diameter of circumscribed circle
165 ARCL X
166 XEQ 32
167 X<>Y
168 RCL 04
169 RCL 05
170 +
171 RCL 06
172 +
173 /
174 4
175 *
176 "d = "       ;Diameter of inscribed circle
177 ARCL X
178 AVIEW
179 ADV
180 FS? 02
181 RTN
182 GTO E
183 LBL 02
184 ">=" "       ;Append equal sign, space
185 ISG X
186 ARCL IND X
187 GTO 32
188 LBL 03
189 X<>Y
190 LASTX
191 ">H= "       ;Append letter H, equal sign, space
192 ARCL Z
193 LBL 32
194 AVIEW
195 FS? 55
196 RTN
197 PSE
198 PSE
199 PSE
200 PSE
201 RTN
202 LBL 04
203 XEQ 05
204 LBL 05
205 RCL 03
206 X<> 01
207 X<> 02

```

208 STO 03  
209 RCL 06  
210 X<> 04  
211 X<> 05  
212 STO 06  
213 RTN  
214 LBL 22  
215 SF 01  
216 LBL 29  
217 SF 04  
218 GTO 07  
219 LBL 30  
220 SF 03  
221 LBL 23  
222 SF 05  
223 GTO 07  
224 LBL 31  
225 SF 03  
226 LBL 21  
227 SF 00  
228 GTO 07  
229 LBL 33  
230 SF 01  
231 SF 05  
232 GTO 07  
233 LBL 34  
234 SF 00  
235 SF 01  
236 GTO 07  
237 LBL 35  
238 SF 03  
239 SF 04  
240 LBL 07  
241 FS? 01  
242 XEQ 04  
243 FS? 03  
244 XEQ 05  
245 FS? 05  
246 XEQ 08  
247 FS? 00  
248 XEQ 10  
249 FS? 04  
250 RCL 06  
251 FS?C 04  
252 XEQ 11  
253 FS?C 03  
254 XEQ 04  
255 FS?C 01  
256 XEQ 05  
257 FS?C 05  
258 GTO 01  
259 FC? 02  
260 GTO 01  
261 XEQ 01  
262 GTO IND 00  
263 LBL 08  
264 RCL 03  
265 RCL 05  
266 P-R  
267 CHS  
268 RCL 04  
269 +  
270 R-P  
271 STO 06  
272 X<>Y  
273 STO 02  
274 CHS  
275 RCL 07  
276 +  
277 STO 01

```

278 RTN
279 LBL 10
280 RCL 05
281 LBL 11
282 ENTER
283 FS? 02
284 GTO 24
285 RCL 01
286 SIN
287 *
288 RCL 04
289 X<Y?
290 GTO 12
291 RCL Z
292 X<=Y?
293 GTO 17
294 XEQ 17
295 FS? 00
296 RCL 02
297 FC? 00
298 RCL 03
299 90
300 X=Y?
301 RTN
302 "2 SOL"      ;Two solutions
303 AVIEW
304 PSE
305 ADV
306 "1ST"        ;First solution
307 AVIEW
308 SF 02
309 RTN
310 LBL 17
311 RCL 01
312 SIN
313 *
314 RCL 04
315 /
316 ASIN
317 FS? 00
318 STO 02
319 FC? 00
320 STO 03
321 CHS
322 RCL 07
323 +
324 GTO 25
325 LBL 24
326 CF 02
327 FS? 00
328 RCL 02
329 FC? 00
330 RCL 03
331 COS
332 CHS
333 ACOS
334 FS? 00
335 STO 02
336 FC? 00
337 STO 03
338 "2ND"        ;Second solution
339 AVIEW
340 RCL 01
341 +
342 COS
343 CHS
344 ACOS
345 LBL 25
346 FS? 00
347 STO 03

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348 FC? 00
349 STO 02
350 SIN
351 RCL 04
352 *
353 RCL 01
354 SIN
355 /
356 FS? 00
357 STO 06
358 FC? 00
359 STO 05
360 RTN
361 LBL 37
362 XEQ 09
363 XEQ 05
364 XEQ 09
365 RCL 02
366 +
367 CHS
368 RCL 07
369 +
370 STO 03
371 XEQ 04
372 GTO 01
373 LBL 09
374 RCL 05
375 RCL 06
376 R-P
377 X^2
378 RCL 04
379 X^2
380 -
381 2
382 /
383 RCL 05
384 /
385 RCL 06
386 /
387 ACOS
388 STO 01
389 END          ;651 BYTES

```

```

028BC000F900504C5452495C3044CF6A150EA9F39773BE00A9
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Program Registers Needed: 93

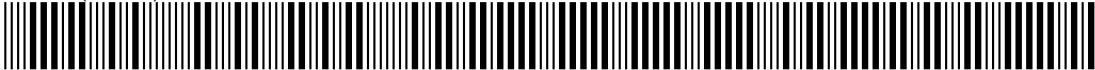
Row 1 (1 - 2)



Row 2 (2 - 9)



Row 3 (10 - 21)



Row 4 (21 - 28)



Row 5 (28 - 35)



Row 6 (36 - 43)



Row 7 (44 - 50)



Row 8 (50 - 60)



Row 9 (61 - 68)



Row 10 (68 - 72)



Row 11 (73 - 79)



Row 12 (79 - 85)



Row 13 (86 - 94)



Row 14 (94 - 102)



Row 15 (103 - 112)

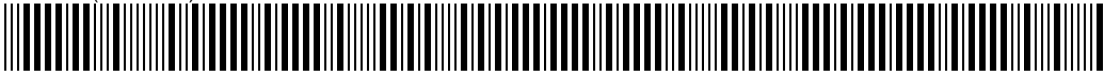


Row 16 (112 - 118)



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Row 17 (118 - 123)



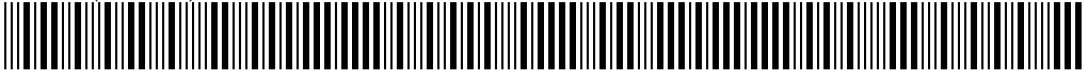
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Row 19 (129 - 139)



Row 20 (139 - 147)



Row 21 (148 - 153)



Row 22 (154 - 164)



Row 23 (164 - 172)



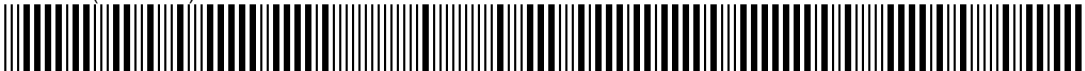
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Row 25 (180 - 186)



Row 26 (186 - 192)



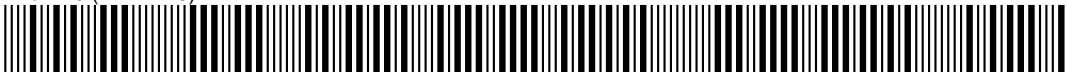
Row 27 (192 - 202)



Row 28 (203 - 210)



Row 29 (211 - 218)



Row 30 (218 - 224)



Row 31 (225 - 231)



Row 32 (231 - 237)



Row 33 (238 - 244)





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Row 34 (244 - 249)



Row 35 (249 - 255)



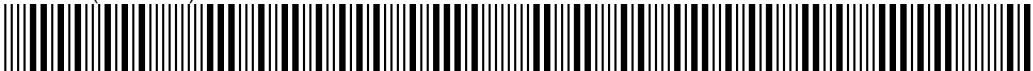
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Row 37 (261 - 271)



Row 38 (272 - 283)



Row 39 (284 - 292)



Row 40 (293 - 299)



Row 41 (299 - 306)



Row 42 (306 - 314)



Row 43 (315 - 324)



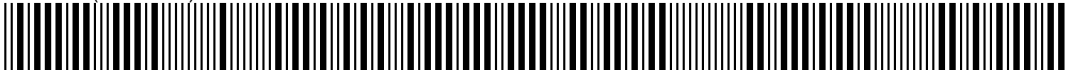
Row 44 (324 - 332)



Row 45 (333 - 340)



Row 46 (341 - 350)



Row 47 (351 - 361)



Row 48 (361 - 367)



Row 49 (368 - 377)



Row 50 (378 - 389)



Row 51 ( 389 )

