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THE 39th ANNUAL IEEE TREASURE HUNT

1989 marks the 39th year of the IEEE Treasure Hunt in the Valley. The prizes awarded the winners over the years have had little monetary value, yet the competition for first place has become keener each year. The excitement has grown, and the red hunting caps awarded Treasure Hunt winners have become the prized possessions in many a trophy cabinet. Wearing this red crown of victory accords winners the privilege (and responsibility) of serving a three-year term on the Treasure Hunt Committee--trying to stump their cohorts.

Beginning in 1970, all two-time winners with six years of committee service, or one-time winners who have had less than three years of respite from committee service, have been offered the opportunity to declare their car "professional". This must be done upon application for tickets to the hunt.

In 1982, the 1970 resolution was amended to limit those teams who wish to declare themselves "professional" to those who have three or more members qualifying as exempt from committee service under the 1970 resolution.

Because of experience gained since 1970 in administering the 1970 "pro" resolution, the committee has made the following interpretation of the resolution: (This is being done to define in detail how the resolution should be administered and to avoid confusing situations which have occurred or might occur.)

A professional team agrees not to compete against amateur teams in the hunt. First, second, and third place prizes will be awarded to the three amateur teams with the lowest times per clue. If a professional team has the lowest time per clue for the hunt, the accomplishment will be announced, and the team members which qualify the team for "pro" status will be awarded "PRO" buttons to be affixed to their previously won red hats. In addition, this team will be admitted to the new "Pro-Button Winners" section of the Hall of Fame. Other pro teams which have times per clue lower than the third place winners will be announced for their respectable showing. Pro teams which ran near the end of the pack will also be announced in order to give encouragement to the novice first year teams which have participated. Beginning in 1985, the novice team with the best time has also been officially recognized, and encouraged to keep up the good work.

Of course, eligible hunters who chose not to be declared "professional" for the hunt will compete and be eligible for first, second, or third place. Also, if this choice is made and the team helps bring up the rear, they will be left alone to hide at their dark corner table behind their beer pitchers where they need not fear the announcement of their boondoggle.

Through the years, many couples who are not IEEE members have served on the committee. They have contributed significantly in making the Treasure Hunt the success that it has been over the past 38 years. Because of this, non-member couples who have served on the committee are given the same status as member couples when ticket preference is given. Of course, non-member ticket prices must still be paid by these couples.

IEEE TREASURE HUNT
----HALL OF FAME----
WINNER (MINUTES/CLUE)

<u>1951 (27.4)</u>	<u>1961 (17.9)</u>
1. Frank, Estes, Lyman	1. Cook, Gabrielson, Jones
2. Greer	2. Cooper, Cranston, Clouse
3. Olson, Chambers, Wunderlich	3. Yost, Goodman, Norde
<u>1952 (23.8)</u>	<u>1962 (12.2)</u>
1. Hartman, Kemmeries, Pennington	1. Samuelson, Welch, Kelly
2. Greer	2. Graham, Peterson, La Prade
3. Gundry	3. Groth, Knoob, Grimaila
<u>1953 (31.8)</u>	<u>1963 (16.2)</u>
1. Sokoloff, Diven, Dreeste	1. Michel, Barto, Solem
2. McClanathan	2. Knoob, Groth, Sanneman
3. Blackert	3. Yost, Norde, Goodman
<u>1954 (23.5)</u>	<u>1964 (17.38)</u>
1. Chambers, Myer	1. Kneale, Walker, Glass
2. Samuelson, Andren, Seibert	2. Knoob, Groth, Sanneman
3.	3. Bremmer, Mayes, Lenas
<u>1955 (17.6)</u>	<u>1965 (16.0)</u>
1. Hume, Estes, Lahti	1. Goodman, Corby, Yost
2. Norde, Yost, Goodman	2. Graham, Bettis, Peterson
3. Ferguson, Eberhard, Dreeste	3. Sanneman, Groth, Knoob
<u>1956 (25.8)</u>	<u>1966 (12.0)</u>
1. Brown, Hershey, Richman	1. Bettis, Peterson, Graham
2. Samuelson, Lyman, Barton	2. Schaffner, Zusman, Voorhaar
3. Reddoch, Bettis, Martin	3. Creede, Cadell, Elbinger
<u>1957 (20.1)</u>	<u>1967 (13.1)</u>
1. Samuelson, Andrew, Barton, Weems	1. Peterson, Rupprecht, Moberly
2. Estes, Diven, Livingood	2. Ford, Wagner, Bensted
3. Creighton, Welch, Reeves	3. Porter, Lange, Attwood
<u>1958 (16.2)</u>	<u>1968 (16.6)</u>
1. Lindsay, Baum, Bettis	1. McBiles, Thomas, Hall
2. Hershey, Groth, Moore	2. Samson, Haentze, Whittaker
3. Edson, Valenti, Ross, Wittenburg	3. Diven, Koch, Schwartz
<u>1959 ()</u>	<u>1969 (19.8)</u>
1. Bettis, Lindsay, Martin	1. Yost, Corby, Eberhard
2.	2. Armstrong, Woodward, Crowell
3.	3. Sanneman, Groth, Knoob
<u>1960 (11.6)</u>	<u>1970 (17.3)</u>
1. Hinsdale, Lange, Porter	1. Greenburg, McKeown, Takesuye
2. Kouns, Peterson, Stites	2. Kline, Post, Knudsen
3. Corby, Peterson, Roe	3. Yost, Corby, Eberhard

IEEE TREASURE HUNT
--HALL OF FAME--
WINNER(MINUTES/CLUE)

1971(15.65)

1. Crawford, Olson, Prigge
2. Moberly, Peterson, Rupprecht
3. Haentze, Samson, Whittaker

1972(19.79)

1. Clouse, Larson, Sprik
2. Bensted, Ford, Wagner
3. Bickely, McArtor, Windett

1973(22.60)

1. Bickely, McArtor, Windett
2. Bliss, Chruma, Caldwell
3. Rugen, Baehr, Bjornholt

1974(23.5)

1. Bliss, Chruma, Fullerton
2. Haentze, Samson, Whittaker
3. Hochgraef, Kulvinskaskas, Zveglic

1975(24.29)

1. Henry, Tatom, Lipinski, Graham
2. Boyd, Gaines, Schaeffer
3. Fitting, Ponce de Leon, Warble

1976(21.56)

1. Fagen, Kasprzyk, Kozlik
2. Sampson, Whittaker, Haentze
3. Rugen, Bjornholt, Flaherty

1977(18.49)

1. Bjornholt, Flaherty, Rugen
2. Andrews, Evans, Semon
3. Haentze, Samson, Whittaker

1978(24.75)

1. Hall, John, Weigel
2. Armstrong, Crowell, Woodward
3. Robinson, Eslinger, Yousseffi

1979(20.51)

1. Oney, Furedy, Porterfield, Livingston
2. Hochgraef, Zveglic, Kulvinskaskas
3. Crowell, Woodward, Armstrong

1980(24.65)

1. Hochgraef, Zveglic, Kulvinskaskas
2. Richmond, Somers, Gulseth
3. Crowell, Armstrong, Woodward

1981(18.22)

1. Nalette, Defrancesco, Sewell
2. Gulseth, Somers, Richmond
3. Brenner, Wunderlich, Kassik

1982(18.13)

1. Crawford, Olson, Prigge
2. Gulseth, Richmond, Somers
3. Armstrong, Crowell, Gourley, Woodward

1983(17.84)

1. Bradshaw, Cutler, Wells
2. Anderson, Hallen, Richmond
3. Knappenberger, Nelson, Shaner

1984(22.99)

1. Bliss, Chruma, Fullerton
2. Berghammer, Fah, McGlinchey
3. Eymann, Osman, Rendek

1985(19.10)

1. Blair, Knott, Wibergh
2. John, Presley, Hall
3. Rugen, Bjornholt, Belanger

1986(20.16)

1. Carlton, Coffeen, Golis, Jacobsen, Moller, Rahrig
2. Amdahl, Williamson, Zabrowski
3. Bibby, Perkins, Stevens

1987(19.38)

1. Hall, John, Presley
2. Dillon, Donaldson, Greeson, McGlinchy, Perillo
3. Clark, Gieske, O'Bannon

1988(15.27)

1. Carleton, Eymann, Osman, Rendek
2. Belanger, Bjornholt, Rugen
3. Constable, Filreis, Flanigan, Hunnicutt, Prejs, Schukai

1989()

- 1.
- 2.
- 3.

1990()

- 1.
- 2.
- 3.

IEEE TREASURE HUNT
---HALL OF FAME---
PRO BUTTON WINNERS (MINUTES/CLUE)

THESE BUTTONS ARE AWARDED TO PRO TEAMS WHICH SUCCEED
IN HAVING THE LOWEST TIME PER CLUE FOR A HUNT.

1972 (19.64)

MOBERLY, PETERSON, RUPPRECHT

1973 (20.82)

BETTIS, GRAHAM, PETERSON

1975 (23.71)

CRAWFORD, OLSON, PRIGGE

1978 (22.96)

BETTIS, GRAHAM, PETERSON

1979 (20.47)

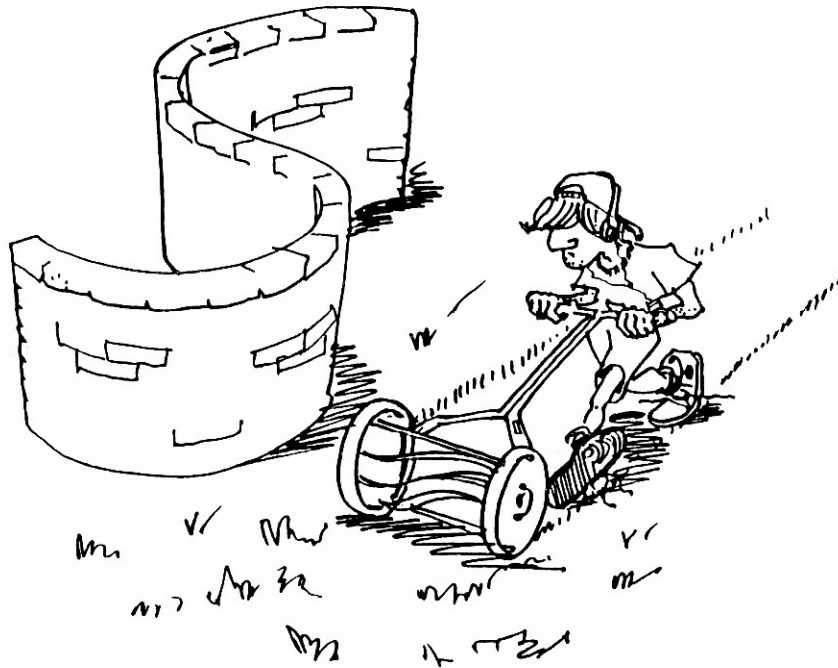
WINDETT, MCARTOR, BICKLEY

1987 (17.28)

DEFRANCESCO, NALETTE, SEWELL

THIS IS CLUE A. SOLVING THIS CLUE WILL LEAD YOU TO CLUE B.

Clue A is a visual clue showing the following:



**IF YOU ARE UNABLE TO SOLVE THIS CLUE OR TO FIND CLUE B, OPEN
EMERGENCY ENVELOPE 3 WHICH WILL DIRECT YOU TO CLUE B.**

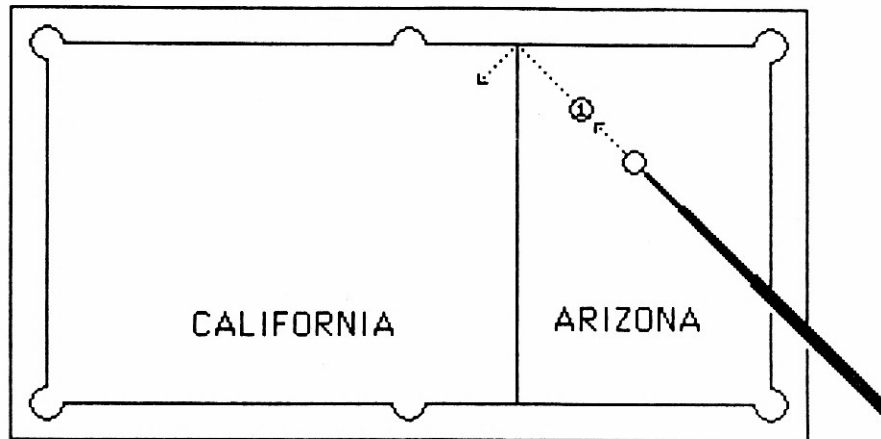
THIS IS EMERGENCY SOLUTION 3 WHICH WILL DIRECT YOU TO CLUE B.

What's this? Why it's a Wall-S Lad Mow, or Wallace and Ladmo! They appear on Channel 5 in the valley so head on over to Circle 5 in the Gerald Wash near Captain Super Way.

Circle 5 is located near the intersection of Happy Valley Road and Hayden Road. From the intersection, follow Happy Valley Road 0.05 miles west to a large wash. Proceed 293 feet north along the wash. The clue site is located on the east side of the wash under a mesquite tree.

**IF YOU ARE UNABLE TO LOCATE CLUE B, OPEN EMERGENCY SOLUTION
ENVELOPE 19 WHICH WILL DIRECT YOU TO CLUE C.**

THIS IS CLUE B. SOLVING THIS CLUE WILL LEAD YOU TO CLUE C.



IF YOU ARE UNABLE TO SOLVE THIS CLUE OR TO FIND CLUE C, OPEN
EMERGENCY ENVELOPE 19 WHICH WILL DIRECT YOU TO CLUE C.

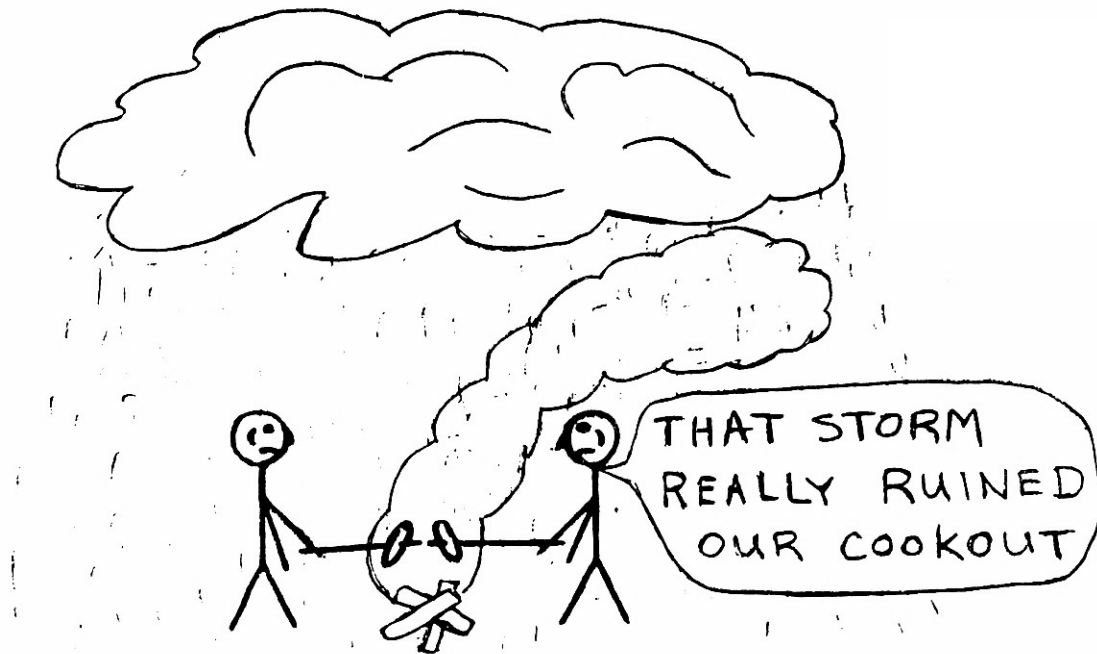
THIS IS EMERGENCY SOLUTION 19 WHICH WILL DIRECT YOU TO CLUE C.

Looks like a mighty long shot to us, but this pool player is going to have to BANK the 1 ball all the way from Arizona to California. This could be the FIRST INTERSTATE BANK shot in history. So cue up Circle I on the map and roll on over to Interstate Way and the Dirt Bank Wash.

Circle I is located near the intersection of Pima and Pinnacle Peak Roads. From the intersection, head south for 1.8 miles to a dirt road. Follow the dirt road west for 450 feet. The clue site is located 60 feet north of the road on the west side of a small wash under a small palo verde tree.

IF YOU ARE UNABLE TO LOCATE CLUE C, OPEN EMERGENCY SOLUTION
ENVELOPE 8 WHICH WILL DIRECT YOU TO CLUE D.

THIS IS CLUE C. SOLVING THIS CLUE WILL LEAD YOU TO CLUE D.



IF YOU ARE UNABLE TO SOLVE THIS CLUE OR TO FIND CLUE D, OPEN
EMERGENCY ENVELOPE 8 WHICH WILL DIRECT YOU TO CLUE D.

THIS IS EMERGENCY SOLUTION 8 WHICH WILL DIRECT YOU TO CLUE D.

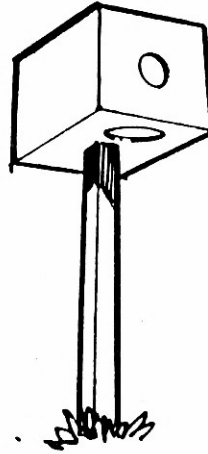
We hope this clue doesn't cloud your thought process. If you look through the smoke, you will see that the storm has WRECKED A FIRE, or in engineering lingo - RECT-A-FIER (whoever said engineers could spell?). So take heed of HWOW #1 which says "The silly con is all wet", and head on over to Circle 0.7.

Circle 0.7 is located near the intersection of Extension and Jomax. From the intersection, head east 0.4 miles. The clue site is located 280 feet east of the end of the pavement and 160 feet south of Jomax under a palo verde tree.

IF YOU ARE UNABLE TO LOCATE CLUE D, OPEN EMERGENCY SOLUTION
ENVELOPE 13 WHICH WILL DIRECT YOU TO CLUE E.

THIS IS CLUE D. SOLVING THIS CLUE WILL LEAD YOU TO CLUE E.

Clue D is a visual clue
consisting of a box
with 2 holes, on a post.



IF YOU ARE UNABLE TO SOLVE THIS CLUE OR TO FIND CLUE E, OPEN
EMERGENCY ENVELOPE 13 WHICH WILL DIRECT YOU TO CLUE E.

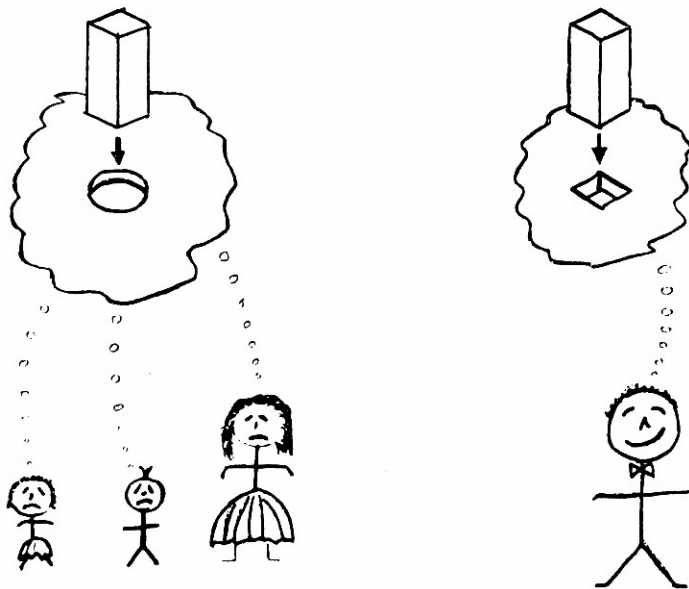
THIS IS EMERGENCY SOLUTION 13 WHICH WILL DIRECT YOU TO CLUE E.

The TH'er shines his/her flashlight into the box. There appears inside the box a shadow of a bomb with the letter R underneath. What is there but not really? Why a STEALTH BOMB-R. So head off to Circle (Blank) on Northrop Wash.

Circle (Blank) is located near the intersection of Dixeleeta and Hayden Roads. From the intersection proceed north 0.15 miles to a wash. The clue site is located 300 feet west of the road on the south side of the wash under a saguaro.

IF YOU ARE UNABLE TO LOCATE CLUE E, OPEN EMERGENCY SOLUTION
ENVELOPE 23 WHICH WILL DIRECT YOU TO CLUE F.

THIS IS CLUE E. SOLVING THIS CLUE WILL LEAD YOU TO CLUE F.



IF YOU ARE UNABLE TO SOLVE THIS CLUE OR TO FIND CLUE F, OPEN
EMERGENCY ENVELOPE 23 WHICH WILL DIRECT YOU TO CLUE F.

THIS IS EMERGENCY SOLUTION 23 WHICH WILL DIRECT YOU TO CLUE F.

As any good TH'er knows, you can't put a square peg in a round hole. Father obviously knows this while the rest of the family does not, so: "Father Knows Best". Without further thought head off to Circle 55 at the intersection of R. Young and J. Wyatt Roads.

Circle 55 is located near the intersection of Twilight Trail and Cave Creek Road. From the intersection, proceed south on Twilight Trail then East on Lazywood. The cluesite is located 169 feet on a magnetic bearing of 287 degrees from the benchmark in the center of the cul de sac next to a palo verde tree in a wash.

IF YOU ARE UNABLE TO LOCATE CLUE F, OPEN EMERGENCY SOLUTION
ENVELOPE 7 WHICH WILL DIRECT YOU TO CLUE G.

THIS IS CLUE F. SOLVING THIS CLUE WILL LEAD YOU TO CLUE G.

11 - 1

3 - 5

7 - ?

IF YOU ARE UNABLE TO SOLVE THIS CLUE OR TO FIND CLUE G, OPEN
EMERGENCY ENVELOPE 7 WHICH WILL DIRECT YOU TO CLUE G.

THIS IS EMERGENCY SOLUTION 7 WHICH WILL DIRECT YOU TO CLUE G.

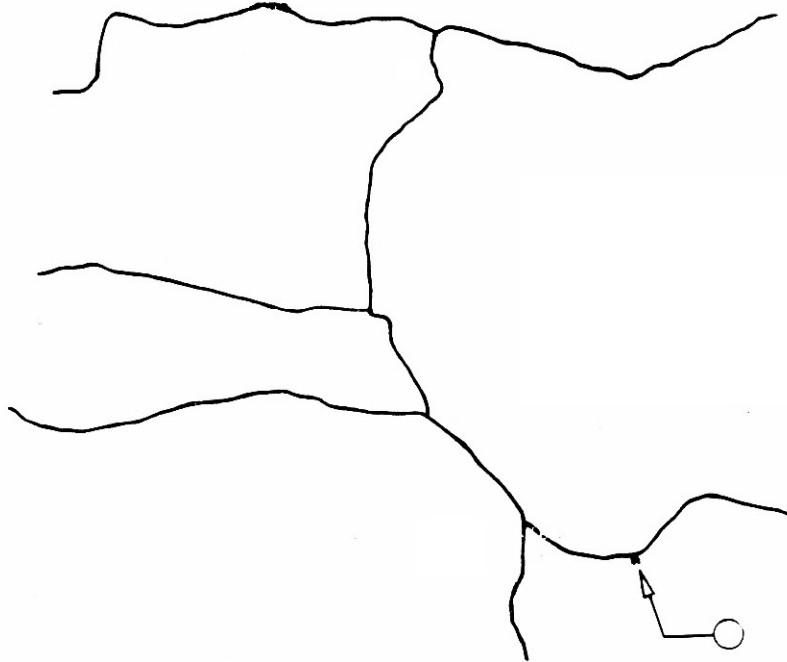
What? You can't tell time? These are times on the clock at 2 hour intervals. The answer is at Circle 9.

Circle 9 is located near the intersection of Scottsdale Road and Westland Road. From the intersection proceed south 0.20 miles to a dirt road. Head east on a dirt road .05 miles. The cluesite is located 180 feet south of the dirt road, 5 feet east of the fenced enclosure.

IF YOU ARE UNABLE TO LOCATE CLUE G, OPEN EMERGENCY SOLUTION
ENVELOPE 10 WHICH WILL DIRECT YOU TO CLUE H.

THIS IS CLUE G. SOLVING THIS CLUE WILL LEAD YOU TO CLUE H.

Clue G is a visual clue showing the following:



IF YOU ARE UNABLE TO SOLVE THIS CLUE OR TO FIND CLUE H, OPEN EMERGENCY ENVELOPE 10 WHICH WILL DIRECT YOU TO CLUE H.

THIS IS EMERGENCY SOLUTION 10 WHICH WILL DIRECT YOU TO CLUE H.

The line pattern shows the interstate highways in Arizona, and the clue is shown located at Benson. In addition, if you paid attention to HWOW #10 which tells you "He works for the Republic.", you should come up with Steve Benson, the editorial cartoonist for the Arizona Republic. So head off to Circle 10 at Steve's Street and Cartoon Corner.

Circle 10 is located near the intersection of Stage Coach Pass Road and Pima Road. From the intersection proceed south .5 miles to Hawknest Road. Proceed west on Hawknest Road for .5 miles to 84th Street. Head south .25 miles on 84th Street. The cluesite is 60 feet east and 150 south of water hydrant, under a saguaro.

IF YOU ARE UNABLE TO LOCATE CLUE H, OPEN EMERGENCY SOLUTION ENVELOPE 2 WHICH WILL DIRECT YOU TO CLUE I.

THIS IS CLUE H. SOLVING THIS CLUE WILL LEAD YOU TO CLUE I.

How many floors will it take you to get from the bottom of elevator #1 to the top of elevator #6?

Here's the Rules:

Each elevator is moving in the direction shown and you can only transfer elevators when they are at the same floor.

It costs a floor during the transfer.

All elevators move at the same rate.

You must go from one elevator to the next.

	1	2	3	4	5	6
F				DN		DN
L		UP				
O			DN		UP	
O						
R						
S	UP					

ELEVATORS

IF YOU ARE UNABLE TO SOLVE THIS CLUE OR TO FIND CLUE I, OPEN EMERGENCY ENVELOPE 2 WHICH WILL DIRECT YOU TO CLUE I.

THIS IS EMERGENCY SOLUTION 2 WHICH WILL DIRECT YOU TO CLUE I.

Elevator #1 to #2 4 floors + 1 transfer.

Elevator #2 to #3 1 floor + 1 transfer.

Elevator #3 to #4 4 floors + 1 transfer.

Elevator #4 to #5 2 floors + 1 transfer.

Elevator #5 to #6 5 floors + 1 transfer.

Elevator #6 to Top 4 floors.

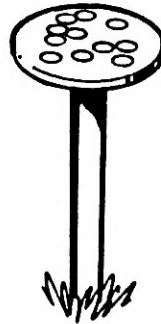
 Total 25 floors, so go to Circle 25.

Circle 25 is located near the intersection of Dove Valley Road and Pima Road. From the intersection, proceed east on the extension of Dove Valley Road 0.20 miles to a wash. The cluesite is located 104 feet on a magnetic bearing of 299 degrees from the center of the road and the wash. The cluesite is behind a large saguaro cactus and a palo verde tree.

IF YOU ARE UNABLE TO LOCATE CLUE I, OPEN EMERGENCY SOLUTION ENVELOPE 24 WHICH WILL DIRECT YOU TO CLUE J.

THIS IS CLUE I. SOLVING THIS CLUE WILL LEAD YOU TO CLUE J.

Clue I is a visual
clue consisting of
a group of pennies
on a board on a post.



IF YOU ARE UNABLE TO SOLVE THIS CLUE OR TO FIND CLUE J, OPEN
EMERGENCY ENVELOPE 24 WHICH WILL DIRECT YOU TO CLUE J.

THIS IS EMERGENCY SOLUTION 24 WHICH WILL DIRECT YOU TO CLUE J.

Well, what do we have here? Why if you were (pardon the pun) paying attention to the HWOW #11 "Having pennies in your pocket is common", you'd figure that this is just a pile of "Common Cents" or Common Sense. Furthermore HWOW # 26 tells you "It's common to feel pain on the TH.", which should jog your memory to the fact that Common Sense was written by Thomas Paine, so head on off to Circle 4 on T. Paine Rd.

Circle 4 is located near the intersection of Ashler Hills and Scottsdale Roads. From the intersection proceed west on Ashler Hills 0.1 miles. The cluesite is located 230 feet north of the road under a palo verde tree.

IF YOU ARE UNABLE TO LOCATE CLUE J, OPEN EMERGENCY SOLUTION
ENVELOPE 15 WHICH WILL DIRECT YOU TO CLUE K.

THIS IS CLUE J. SOLVING THIS CLUE WILL LEAD YOU TO CLUE K.

THIS CLUE IS TOTALLY RAD.

$$2.0595 = ?$$

IF YOU ARE UNABLE TO SOLVE THIS CLUE OR TO FIND CLUE K, OPEN
EMERGENCY ENVELOPE 15 WHICH WILL DIRECT YOU TO CLUE K.

THIS IS EMERGENCY SOLUTION 15 WHICH WILL DIRECT YOU TO CLUE K.

Knowing that this clue is TOTALLY RAD and paying heed to the HWOW that said "It sure is hot out there", you knew to convert 2.0595 radians to degrees:

$$2.0595 / \text{PI} \times 180 = 118 \text{ degrees.}$$

According to the enclosed newspaper clipping, the hottest day of the year in Phoenix, which occurred on July 4, was also 118. Hmmm, a strange coincidence? Not likely. And since 7/4 is on the map, make a beeline for it.

Circle 7/4 is located near the intersection of Cave Creek Road and Tom Darlington. From the intersection proceed west 0.5 miles to Van Meersch. Proceed 0.3 miles north to the intersection of a dirt road. The cluesite is located 80 feet north and 55 feet east of the intersection.

IF YOU ARE UNABLE TO LOCATE CLUE K, OPEN EMERGENCY SOLUTION
ENVELOPE 11 WHICH WILL DIRECT YOU TO CLUE L.

THIS IS CLUE K. SOLVING THIS CLUE WILL LEAD YOU TO CLUE L.

$$\begin{array}{r} 10 \\ \hline 7343 * 11^2 * 2^3 \end{array}$$

IF YOU ARE UNABLE TO SOLVE THIS CLUE OR TO FIND CLUE L, OPEN
EMERGENCY ENVELOPE 11 WHICH WILL DIRECT YOU TO CLUE L.

THIS IS EMERGENCY SOLUTION 11 WHICH WILL DIRECT YOU TO CLUE L.

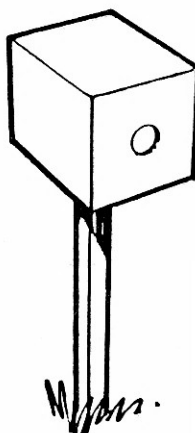
Did this problem make you boiling mad? Simply compute the answer and turn the calculator over. If you look at 3 decimal places, it will read h20.B0IL. So head immediately to Circle 212 before you get steamed.

Circle 212 is located 3.6 miles west of the intersection of Cave Creek Road and New River Road. From the cattle guard on New River Road proceed west 1.25 miles to a wash just west of a dirt road heading north. The cluesite is located 105 feet north of New River Road on the east side of the wash under a palo verde tree.

IF YOU ARE UNABLE TO LOCATE CLUE L, OPEN EMERGENCY SOLUTION
ENVELOPE 1 WHICH WILL DIRECT YOU TO CLUE M.

THIS IS CLUE L. SOLVING THIS CLUE WILL LEAD YOU TO CLUE M.

Clue L is a working visual consisting of a box on a post, with a hole in the front and a place for a 9 volt battery.



IF YOU ARE UNABLE TO SOLVE THIS CLUE OR TO FIND CLUE M, OPEN
EMERGENCY ENVELOPE 1 WHICH WILL DIRECT YOU TO CLUE M.

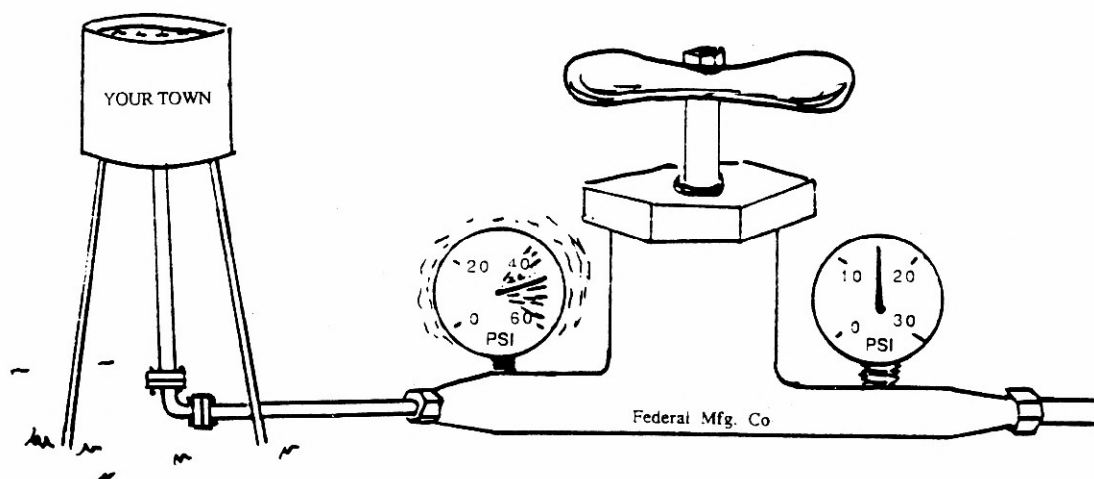
THIS IS EMERGENCY SOLUTION 1 WHICH WILL DIRECT YOU TO CLUE M.

Taking a hint from HWOW which asks "How can you tell which direction you are going?" and advises you "A 9-volt battery will help you find your way", the wise TH'er will attach the 9 volt battery to the back of the working visual clue. Next he/she will hold their compass through the hole in the front of the box. A coil cleverly concealed in the box will cause the compass needle to deflect in the direction of the next cluesite located at Circle 295 which also happens to be the bearing indicated by your compass.

Circle 295 is located near the intersection of 16th Street and Joy Ranch Road. Proceed west on Joy Ranch Road 200 feet to a wash. The cluesite is located 163 feet north of Joy Ranch Road in the wash on the west bank under a mesquite tree.

IF YOU ARE UNABLE TO LOCATE CLUE M, OPEN EMERGENCY SOLUTION
ENVELOPE 17 WHICH WILL DIRECT YOU TO CLUE N.

THIS IS CLUE M. SOLVING THIS CLUE WILL LEAD YOU TO CLUE N.



IF YOU ARE UNABLE TO SOLVE THIS CLUE OR TO FIND CLUE N, OPEN
EMERGENCY ENVELOPE 17 WHICH WILL DIRECT YOU TO CLUE N.

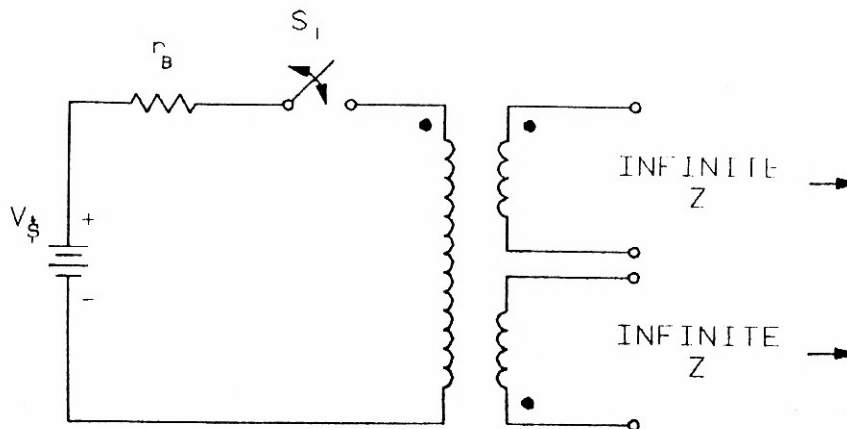
THIS IS EMERGENCY SOLUTION 17 WHICH WILL DIRECT YOU TO CLUE N.

What we have here is a pressure regulated supply. But this is no ordinary supply - it has a "Federal Regulator". So don't make any unnecessary deposits and head off to Circle SnL on Bail-Out Way.

Circle SnL is located near the intersection of 7th Avenue and Carefree Highway. From the intersection proceed south on 7th Avenue 0.1 miles. Bear right at fork in the road and proceed an additional 0.2 miles. The cluesite is located 163 feet off the road on a compass bearing of 320 degrees under a palo verde tree.

IF YOU ARE UNABLE TO LOCATE CLUE N, OPEN EMERGENCY SOLUTION
ENVELOPE 25 WHICH WILL DIRECT YOU TO CLUE O.

THIS IS CLUE N. SOLVING THIS CLUE WILL LEAD YOU TO CLUE O.



IF YOU ARE UNABLE TO SOLVE THIS CLUE OR TO FIND CLUE O, OPEN
EMERGENCY ENVELOPE 25 WHICH WILL DIRECT YOU TO CLUE O.

THIS IS EMERGENCY SOLUTION 25 WHICH WILL DIRECT YOU TO CLUE O.

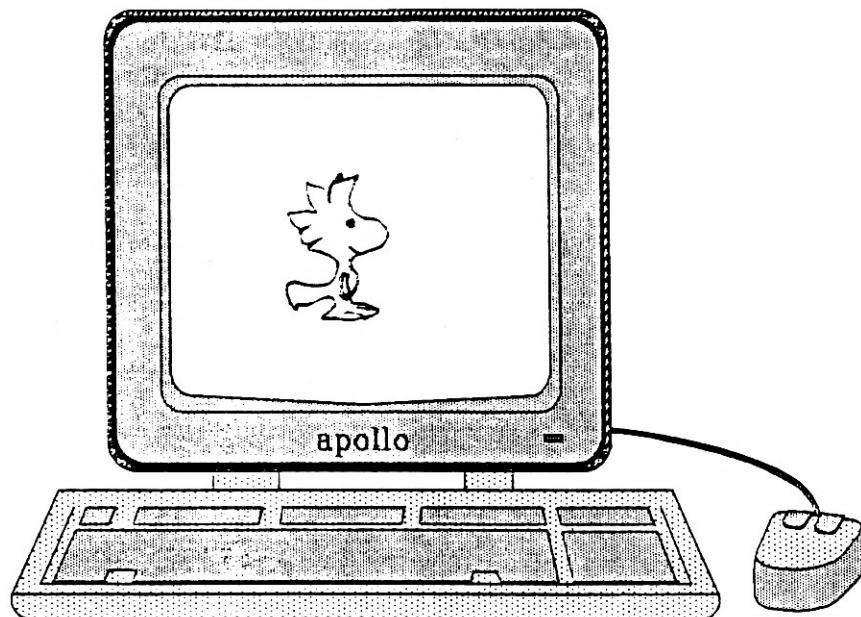
This is a simple circuit with two output ports, both of which are mutually-coupled to the primary circuit windings driven by a source of V_S . Did you notice that both output circuits are driving into infinite impedances, or that they are unloaded? Looks like what we have here are a couple of NO-LOAD MUTUALS. Did you take note of the listing of top-performing no-load mutuals in the brown bag? If so, you'll know to head off to Circle 800 at the intersection of Wasatch Blvd. and Vanguard Way.

Circle 800 is located near the landfill on the Carefree Highway. From the entrance to the landfill proceed east 0.2 miles to 44th Street. Follow 44th Street south for .22 miles. The cluesite is located 164 feet on a compass bearing of 40 degrees under a palo verde tree.

IF YOU ARE UNABLE TO LOCATE CLUE O, OPEN EMERGENCY SOLUTION
ENVELOPE 6 WHICH WILL DIRECT YOU TO CLUE P.

THIS IS CLUE O. SOLVING THIS CLUE WILL LEAD YOU TO CLUE P.

Clue O is a
visual clue
consisting of
the following:



IF YOU ARE UNABLE TO SOLVE THIS CLUE OR TO FIND CLUE P, OPEN
EMERGENCY ENVELOPE 6 WHICH WILL DIRECT YOU TO CLUE P.

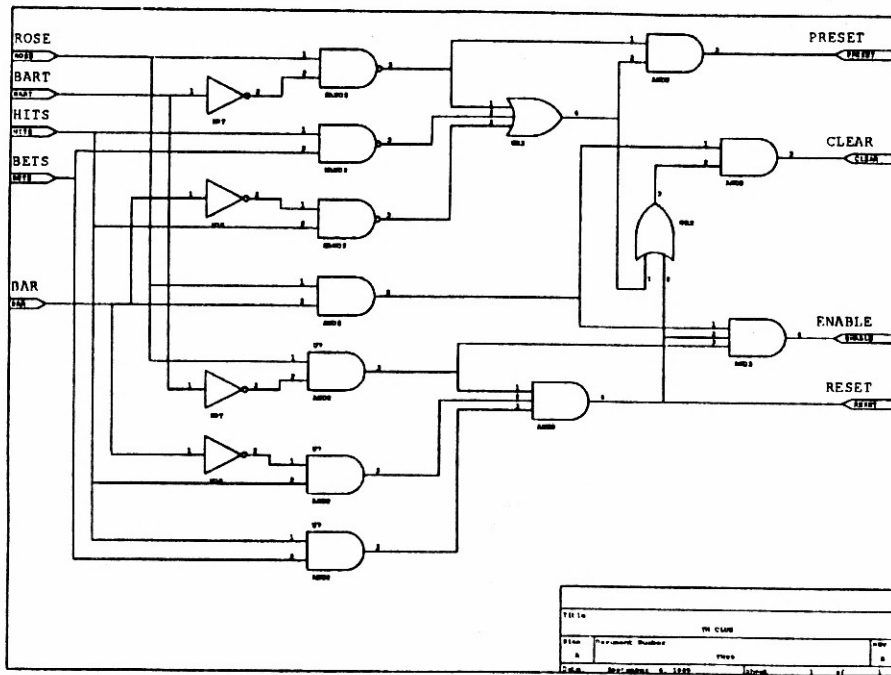
THIS IS EMERGENCY SOLUTION 6 WHICH WILL DIRECT YOU TO CLUE P.

What do Woodstock and Apollo have in common? Both Woodstock and Apollo 11 were in the news this year for their 20th anniversaries, so head for Circle 20.

Circle 20 is located near the intersection of Cave Creek Road and Dixeleeta. From the intersection proceed south on Cave Creek Road for 0.60 miles to a dirt road. Follow the dirt road to the west for 1.12 miles to a large wash. The cluesite is located 200 feet on a compass heading of 220 degrees on the east bank of a wash, under a mesquite tree.

IF YOU ARE UNABLE TO LOCATE CLUE P, OPEN EMERGENCY SOLUTION
ENVELOPE 22 WHICH WILL DIRECT YOU TO CLUE Q.

THIS IS CLUE P. SOLVING THIS CLUE WILL LEAD YOU TO CLUE Q.



IF YOU ARE UNABLE TO SOLVE THIS CLUE OR TO FIND CLUE Q, OPEN
EMERGENCY ENVELOPE 22 WHICH WILL DIRECT YOU TO CLUE Q.

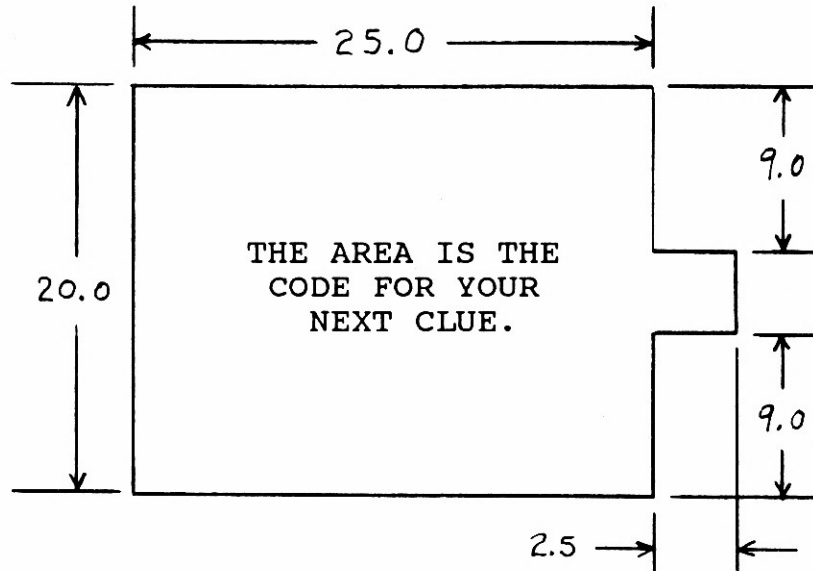
THIS IS EMERGENCY SOLUTION 22 WHICH WILL DIRECT YOU TO CLUE Q.

The HOWOW told you "Some answers are CLEAR when reduced to their simplest form". Thus, for this circuit, CLEAR = ROSE * BAR, or when stated: CLEAR = ROSE and BAR. Say, isn't that the star of Roseanne on Channel 3? It sure is, so head for Circle 3 on the corners of Comedienne Wash and Chunky Way.

Circle 3 is located near the intersection of Dynamite Blvd. and 56th Street. From the intersection proceed south on 56th street 0.10 miles to the first wash. The cluesite is located 143 feet west of the road along the south bank of the wash, under a mesquite tree.

IF YOU ARE UNABLE TO LOCATE CLUE Q, OPEN EMERGENCY SOLUTION
ENVELOPE 4 WHICH WILL DIRECT YOU TO CLUE R.

THIS IS CLUE Q. SOLVING THIS CLUE WILL LEAD YOU TO CLUE R.



IF YOU ARE UNABLE TO SOLVE THIS CLUE OR TO FIND CLUE R, OPEN
EMERGENCY ENVELOPE 4 WHICH WILL DIRECT YOU TO CLUE R.

THIS IS EMERGENCY SOLUTION 4 WHICH WILL DIRECT YOU TO CLUE R.

HWOW #18 says "This could be a phone-y", but this clue is definitely not phony. The area is indeed the code. We hope you found that the area was 505, and had you looked at any handy phone book, you would have seen that New Mexico has an Area Code of 505. So ring off to Circle 47 on New Mexico St.

Circle 47 is located near the intersection of Cave Creek Road and Jomax Road. From the intersection, follow Jomax Road west for 0.77 miles until you reach a small dirt road. Follow the dirt road north for 0.1 miles. The clue site is located 150 feet west of the dirt road under a mesquite tree.

IF YOU ARE UNABLE TO LOCATE CLUE R, OPEN EMERGENCY SOLUTION
ENVELOPE 18 WHICH WILL DIRECT YOU TO CLUE S.

THIS IS CLUE R. SOLVING THIS CLUE WILL LEAD YOU TO CLUE S.

The committee hopes
that you will take this clue personally,
but not too personally.

IF YOU ARE UNABLE TO SOLVE THIS CLUE OR TO FIND CLUE S, OPEN
EMERGENCY ENVELOPE 18 WHICH WILL DIRECT YOU TO CLUE S.

THIS IS EMERGENCY SOLUTION 18 WHICH WILL DIRECT YOU TO CLUE S.

The avid TH'er, having paid attention to the HWOW instructing them "to have their own personal copy of todays Gazette" will immediately turn to the Personals and discover "The Institute of Electrical and Electronic Engineers says R=53". Keeping in mind that you are solving for Clue R, proceed to Circle 53.

Circle 53 is located near the intersection of Cave Creek and Cave Creek Dam Roads. From the intersection, follow Cave Creek Dam Road to the northwest for 1.60 miles until you reach the second set of power lines. Follow the power line road west until you reach a small dirt road 210 feet past the first power tower. The clue site is located 159 feet south of the power line road adjacent to a fallen tree.

IF YOU ARE UNABLE TO LOCATE CLUE S, OPEN EMERGENCY SOLUTION
ENVELOPE 20 WHICH WILL DIRECT YOU TO CLUE T.

THIS IS CLUE S. SOLVING THIS CLUE WILL LEAD YOU TO CLUE T.

What is the missing number?

10
11
12
13
14
15
16
17
20
22
24
31
100
?
10000

IF YOU ARE UNABLE TO SOLVE THIS CLUE OR TO FIND CLUE T, OPEN
EMERGENCY ENVELOPE 20 WHICH WILL DIRECT YOU TO CLUE T.

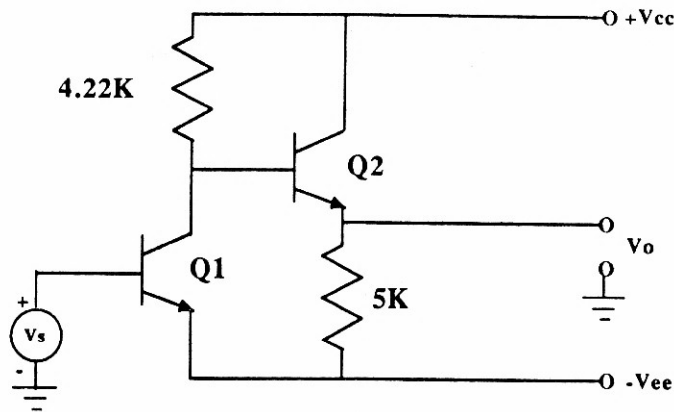
THIS IS EMERGENCY SOLUTION 20 WHICH WILL DIRECT YOU TO CLUE T.

Did you cover all the bases for Sweet 16? The first number is written in base 16, the second base 15, etc., down to the last which is written in base 2. The missing number, therefore, is 121, so head over to Circle 121!

Circle 121 is located near the intersection of 32nd Street and Beardsley Road. From the intersection, follow the power lines 540 feet east. The clue site is located at the base of the second power pole.

IF YOU ARE UNABLE TO LOCATE CLUE T, OPEN EMERGENCY SOLUTION
ENVELOPE 5 WHICH WILL DIRECT YOU TO CLUE U.

THIS IS CLUE T. SOLVING THIS CLUE WILL LEAD YOU TO CLUE U.



$$\begin{array}{llll} h_{ie} = 2K & h_{fe} = 50 & h_{re} = 6 \times 10^{-4} & h_{oe} = 25 \text{ uA/V} \\ h_{ic} = 2K & h_{fc} = -51 & h_{rc} = 1 & h_{oc} = 25 \text{ uA/V} \end{array}$$

FIND THE MAGNITUDE OF THE VOLTAGE GAIN,
ROUNDED OFF TO THE NEAREST WHOLE INTEGER.

IF YOU ARE UNABLE TO SOLVE THIS CLUE OR TO FIND CLUE U, OPEN
EMERGENCY ENVELOPE 5 WHICH WILL DIRECT YOU TO CLUE U.

THIS IS EMERGENCY SOLUTION 5 WHICH WILL DIRECT YOU TO CLUE U.

The voltage gain of the circuit is the product of the voltage gains of Q1 and Q2. Using the equations provided in the Brown Bag, and recognizing that Q1 is a common emitter and Q2 is a common collector configuration, and paying attention to HWOW #23 about parallel loads, then:

$$A_v = A_{v_{Q1}} * A_{v_{Q2}} = (-h_{fe} * R_L / h_{ie})_{Q1} * (1 - h_{ie} / R_i)_{Q2}$$

$$R_{i_{Q2}} = h_{ie} + (1 + h_{fe}) * R_L = 2K + (1 + 50) * 5K = 257K$$

$$R_{L_{Q1}} = 4.22K \text{ in parallel with } R_{i_{Q2}} = 1 / (1 / 4.22K + 1 / 257K) = 4.152K$$

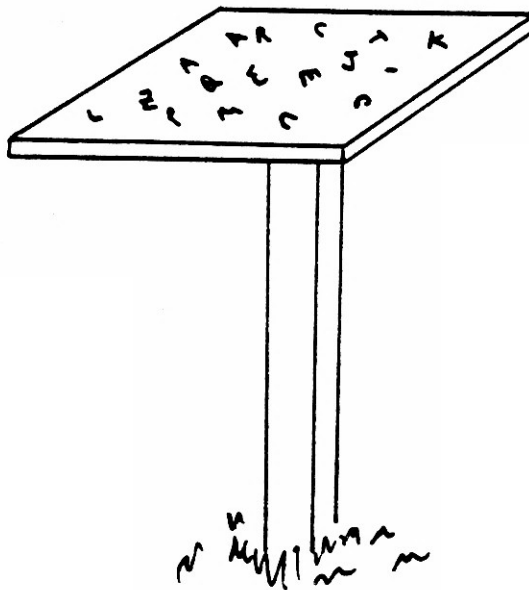
Therefore: $A_v = (-50 * 4.152K / 2K) * (1 - 2K / 257K) = -102.99$
Go To Circle 103.

Circle 103 is located near the intersection of Cave Creek Road and Lone Cactus Road. From the intersection, proceed 0.55 miles west. Proceed north 300 feet on a dirt road. The cluesite is located 150 feet east under an ocotillo bush in a small wash.

IF YOU ARE UNABLE TO LOCATE CLUE U, OPEN EMERGENCY SOLUTION
ENVELOPE 26 WHICH WILL DIRECT YOU TO CLUE V.

THIS IS CLUE U. SOLVING THIS CLUE WILL LEAD YOU TO CLUE V.

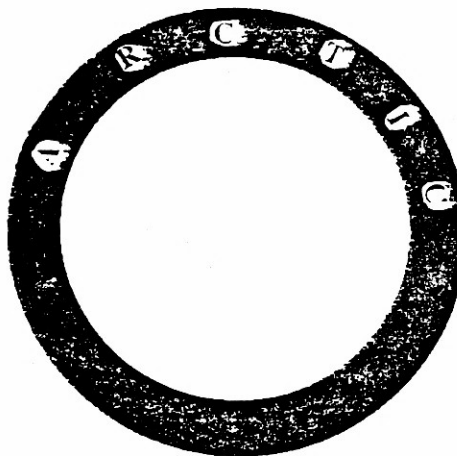
Clue U is a working visual consisting of the following:



IF YOU ARE UNABLE TO SOLVE THIS CLUE OR TO FIND CLUE V, OPEN EMERGENCY ENVELOPE 26 WHICH WILL DIRECT YOU TO CLUE V.

THIS IS EMERGENCY SOLUTION 26 WHICH WILL DIRECT YOU TO CLUE V.

If you've been wondering when to use the holy black ring in the Brown Bag, the time has come. Place the ring over the peg of the visual clue and you will see the word "ARTIC". What you are looking at then is an "ARTIC CIRCLE", so head over to Circle 66.5 (the latitude of the Artic Circle) on Frigid Way.



Circle 66.5 is located near the intersection of Pinnacle Peak Road and Cave Creek Road. From the intersection, proceed 0.7 miles east on Pinnacle Peak Road to a dirt road heading south. Go 0.5 miles south on the dirt road to where a power line crosses the road. The clue site is located 343 feet east of the dirt road and 36 feet south of the power line behind a mesquite tree.

IF YOU ARE UNABLE TO LOCATE CLUE V, OPEN EMERGENCY SOLUTION ENVELOPE 14 WHICH WILL DIRECT YOU TO CLUE W.

THIS IS CLUE V. SOLVING THIS CLUE WILL LEAD YOU TO CLUE W.

DO YOU WANT TO TAKE THAT BOAT WITH THE OARS
ACROSS, OR SHOULD WE FIND A SHALLOW SPOT
AND WALK ACROSS.

IF YOU ARE UNABLE TO SOLVE THIS CLUE OR TO FIND CLUE W, OPEN
EMERGENCY ENVELOPE 14 WHICH WILL DIRECT YOU TO CLUE W.

THIS IS EMERGENCY SOLUTION 14 WHICH WILL DIRECT YOU TO CLUE W.

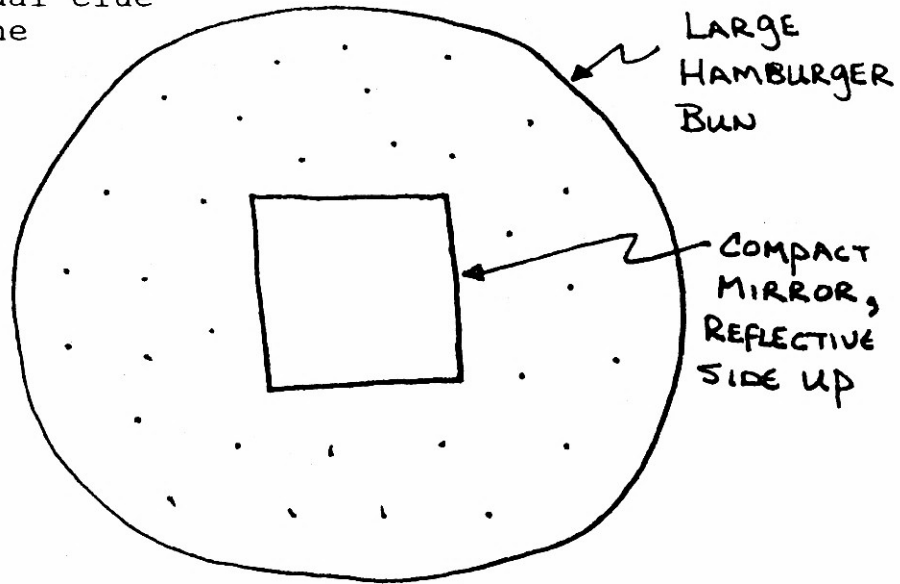
The debate here is whether to row across or to wade across. The question is stated more simply as Row vs. Wade. So hop in your boat and row over to Circle 72 on the corner of Supreme Ct. and Decision Wash.

Circle 72 is located near the intersection of Tatum Blvd. and Pinnacle Peak Road. From the intersection, proceed 0.23 miles east on Pinnacle Peak Road to a wash. The clue site is located 230 feet north of the road on the west side of the wash, under a mesquite tree.

IF YOU ARE UNABLE TO LOCATE CLUE W, OPEN EMERGENCY SOLUTION
ENVELOPE 21 WHICH WILL DIRECT YOU TO CLUE X.

THIS IS CLUE W. SOLVING THIS CLUE WILL LEAD YOU TO CLUE X.

Clue W is a visual clue consisting of the following:



IF YOU ARE UNABLE TO SOLVE THIS CLUE OR TO FIND CLUE X, OPEN EMERGENCY ENVELOPE 21 WHICH WILL DIRECT YOU TO CLUE X.

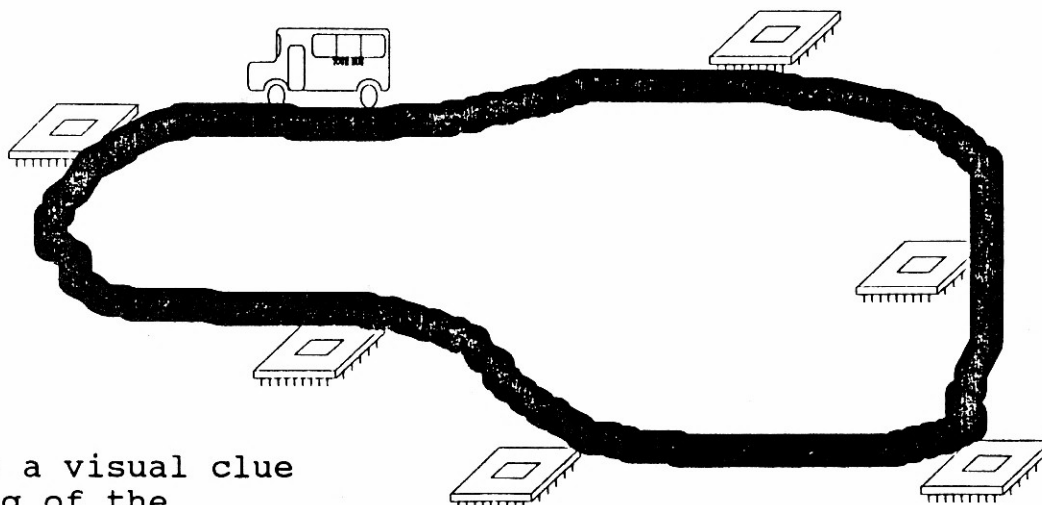
THIS IS EMERGENCY SOLUTION 21 WHICH WILL DIRECT YOU TO CLUE X.

Looking at this visual clue, what you see is a mirror on top of a bun - or roll. Examining the roll from the top, you encounter a reflection of yourself. Holy Mackerel, you're on a roll! Shoot on over to lucky Circle 7 at Lucky Streak Wash and things are goin' your way.

Circle 7 is located near the radio towers just north of Bell on Scottsdale Road. From Scottsdale Road proceed west on the dirt road along the fence line just north of the radio towers 0.15 miles. The clue site is located 74 feet north of the fence behind a large palo verde tree on the west side of a wash.

IF YOU ARE UNABLE TO LOCATE CLUE X, OPEN EMERGENCY SOLUTION ENVELOPE 12 WHICH WILL DIRECT YOU TO CLUE Y.

THIS IS CLUE X. SOLVING THIS CLUE WILL LEAD YOU TO CLUE Y.



Clue X is a visual clue consisting of the following:

IF YOU ARE UNABLE TO SOLVE THIS CLUE OR TO FIND CLUE Y, OPEN EMERGENCY ENVELOPE 12 WHICH WILL DIRECT YOU TO CLUE Y.

THIS IS EMERGENCY SOLUTION 12 WHICH WILL DIRECT YOU TO CLUE Y.

This is a tour bus driving past a bunch of pin grid arrays. Could this be a PGA Tour. Go for the Birdie at Circle 18 near the Tournament Players Golf Club (The TPC) near the Golden Bear and White Shark Washes.

Circle 18 is located near the intersection of Pima Road and Union Hills Drive. From the intersection, proceed west 0.5 miles to a driveway for the CAP Plant. The clue site is located 84 feet west of the driveway and 75 feet south of Union Hills Drive under a palo verde tree.

IF YOU ARE UNABLE TO LOCATE CLUE Y, OPEN EMERGENCY SOLUTION ENVELOPE 9 WHICH WILL DIRECT YOU TO CLUE Z.

THIS IS CLUE Y. SOLVING THIS CLUE WILL LEAD YOU TO CLUE Z.

1. $(X + 2)^2 + (Y - 1)^2 = 1$
2. $(X + 2)^2 + (Y + 1)^2 = 1$
3. $(X - 2)^2 + (Y - 1)^2 = 1$
4. $X - 3 = 0$ FOR $-2 < Y < 1$

Get the plot?

IF YOU ARE UNABLE TO SOLVE THIS CLUE OR TO FIND CLUE Z, OPEN
EMERGENCY ENVELOPE 9 WHICH WILL DIRECT YOU TO CLUE Z.

THIS IS EMERGENCY SOLUTION 9 WHICH WILL DIRECT YOU TO CLUE Z.

No Problem! Right? Just dig out the graph paper from the Brown Bag and get the plot:

1. Circle with radius 1, centered at -2,+1
2. Circle with radius 1, centered at -2,-1
3. Circle with radius 1, centered at +2,+1
4. Line at $X = +3$ from $Y = -2$ to +1

Holy Treasure Hunt, it could only mean that you should proceed to Circle 89.

Circle 89 is located near the intersection of Adobe and 98th Street. The clue site is located 71 feet south and 159 feet east of the intersection under a large palo verde tree.

IF YOU ARE UNABLE TO LOCATE CLUE Z, OPEN EMERGENCY SOLUTION
ENVELOPE 16 WHICH WILL DIRECT YOU TO CLUE A.

THIS IS CLUE Z. SOLVING THIS CLUE WILL LEAD YOU TO CLUE A.



IF YOU ARE UNABLE TO SOLVE THIS CLUE OR TO FIND CLUE A, OPEN
EMERGENCY ENVELOPE 16 WHICH WILL DIRECT YOU TO CLUE A.

THIS IS EMERGENCY SOLUTION 16 WHICH WILL DIRECT YOU TO CLUE A.

If you think this clue stinks, wait until you hear the answer! What you see is a write protect tab, or in other words, a WRITE GUARD. Get the smell of this clue? Before this gets any "smellier", pull out your can of Right Guard and head off to Circle 43 at Pitt Place and D. O. Derant.

Circle 43 is located 1.6 miles east of the intersection of Alma School Road and Happy Valley Road. From the intersection proceed east on Happy Valley Road to 116th Street. From this intersection, head 180 feet south-southeast at a compass heading of 137 degrees to a dirt trail, then turn south-east at a compass heading of 110 degrees down a wash for an additional 230 feet. The clue site is located under a palo verde tree in the wash.

IF YOU ARE UNABLE TO LOCATE CLUE A, OPEN EMERGENCY SOLUTION
ENVELOPE 3 WHICH WILL DIRECT YOU TO CLUE B.

HINTS WISE AND OTHERWISE

1. The silly con is all wet.
2. Don't bring a solar powered calculator.
3. Some answers are **CLEAR** when reduced to their simplest form.
4. How can you tell which direction you are going?
5. What time is it?
6. It's a kindler, genter **HUNT**.
7. If a hint's not wise is it an otherwise, even if it's a hint?
8. A 9-Volt battery will help you find your way.
9. When you thought it was safe outside, *THE HUNT III* !!??!!
10. He works for the Republic.
11. Having pennies in your pocket is common.
12. Been flying any kites in a storm lately?
13. Don't spend much time on the 19th hole.
14. **Here we go a-gain.**
15. The avid TH'er will have their own personal copy of today's Gazette.
16. Be sure, keep your guard up.
17. It sure is hot out there.
18. This could be a phone-y.
19. The plot sickens.
20. All elevators go both ways.
21. Do you know Hugh
22. Two be or be too.
23. Work your loads in parallel to get done quicker.
24. How's the weather out there?
25. What do emitter and base have in common.
26. It's common to sense pain on the TH.
27. Aren't we having fun, yet?
28. Thank you again, for your support.