

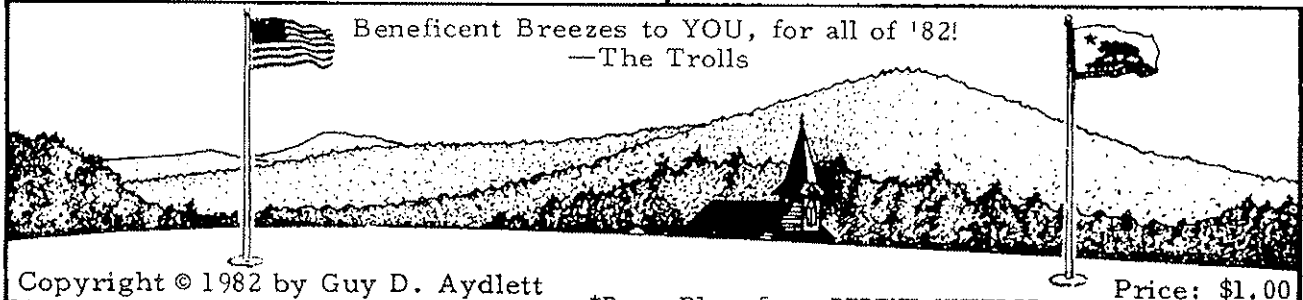
PINEY MOUNTAIN AIR FORCE

DATA - LETTER

VOLUME II, No. 1

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Whole Number 14



Dear Kiteflier:

KITELETTERS in variety come to the PMAF letterbox. Some of them have squandered space to give favorable mention of *DATA-LETTER*. Their kindness is appreciated.

We have heard from:

AKA NEWS, a bi-monthly; is the official publication of American Kitefliers Association. Aply edited by BROOKS LEFFLER, *AKA NEWS* is mailed free to any kiteflier who is an AKA member (annual membership fee is \$10.00). Write to: American Kitefliers Association, 1104 Fidelity Building, Baltimore, Maryland 21201 U.S.A.

AUSTRALIAN KITE ASSOCIATION NEWS-LETTER, a monthly publication. October issue was number 39 in the well-established series. HELEN BUSHELL, TONY JOHNSTON, and DORIS SMITH are the editors. Delicious bits of lagniappe created by Helen have shown up with the newsletter: excellent drawings and sound kiteflying advice. Write: *AKA Newsletter*, c/o Helen Bushell, 10 Elm Grove, East Kew 3102, Victoria, Australia. [N.B.: Most kite clubs operate on tight budgets. Therefore it is always a kindness to include *SASE's* when making inquiries. (Include at least two Universal Postal Union Coupons in letters to overseas kite organizations.)]

5/20 KITE GROUP NEWS is a well organized paper that is edited by HANK SZERLAG. Volume 3, No. 3, undated but received on 9 March 1981, is the only copy we have seen

*Bear Flag from REDEYE WHEELER
Cannery Row Spit & Whittle Club
Heritage Village, Southbury, CT

Price: \$1.00

PRINTED IN U.S.A.

so far; but we'd enjoy seeing more. . . .
5/20 Kite Group, 1961 Hunt Club Drive,
Grosse Pointe Woods, MI 48326, U.S.A.

KITE, in simple elegance, is the name of the Northern Kite Group's quarterly newsletter; DAVID HOLMES, editor. Our copy was sent to us by JOHN SPENDLOVE, the club's International Secretary. *KITE* is newsy—even breezy—; features kite plans and astonishing cartoons. Membership: £4 per year. Write to: MARTIN POWELL, treasurer, 213 Manchester Road, Rochdale, Lancashire OL11 3RB, England.

KITE FLYER, everybody's favorite, is a happy creation of LELAND TOY, editor; a bimonthly: "The San Francisco Bay Area Kite Flying News." Lee is an AKA director as well as editor. His news coverage is well beyond the Bay Area limits, and his kite plans are ably drafted. Send a mere \$5.00 for a year of good material from: *Kite Flyer*, 1883 Grand View Drive, Oakland, California 94618, U.S.A.

KITEFLIERS OCCASIONAL NEWSLETTER (nine issues in two years; 50p each) is a well-edited production of G. A. BLOOM and others (signatures illegible). Our samples of *K.O.N.* have twenty-four saddle stitched pages that include international news, good kite plans, and spirited cartoons. To subscribe, send £2.00 to: *K.O.N.*, 31 Grange Road, Ilford, Essex IG1 1EU, England.

(continued on page 4)

KITE LAYOUT WITH DECIMAL DIMENSIONS AND A POCKET CALCULATOR

by G. Ompter and Cal Q. Layter

What is the sum of 5-5/64" and 11-7/8"? Could you do the sum in a hurry and get an answer of 16-61/64"? Not quickly done by longhand methods, was it? You could have used your pocket calculator, but to handle those awkward fractions you would have needed to punch buttons up to about twenty-four times to get your answer.

Suppose, instead, you had been asked to add 5.078125 and 11.875? Simple long-hand tabular addition would have quickly yielded 16.953125, a sum that would have required only seventeen calculator steps, or twelve steps for a dimensional accuracy of 1/100" (round-off the numbers to 5.08 and 11.88 respectively; answer = 16.96).

THE ENGLISH INCH, subdivided into common fractional steps of 1/64", persists as a length dimensional standard in the United States; but the adoption of the Continental Metric Standard ultimately will prevail. In the meantime, users stuck with inch units can acquire decimal calculation skills if they convert those nasty common fractions into tractable decimal equivalents. Table I is offered here to help you to make the switch:

TABLE I

| DECIMAL EQUIVALENTS OF COMMON FRACTIONS OF AN INCH IN 1/64" STEPS | | | |
|-------------------------------------------------------------------|----------|--------|----------|
| 1/64" | 0.015625 | 33/64" | 0.515625 |
| 1/32 | 0.03125 | 17/32 | 0.53125 |
| 3/64 | 0.046875 | 35/64 | 0.546875 |
| 1/16 | 0.0625 | 9/16 | 0.5625 |
| 5/64 | 0.078125 | 37/64 | 0.578125 |
| 3/32 | 0.09375 | 19/32 | 0.59375 |
| 7/64 | 0.109375 | 39/64 | 0.609375 |
| 1/8 | 0.125 | 5/8 | 0.625 |
| 9/64 | 0.140625 | 41/64 | 0.640625 |
| 5/32 | 0.15625 | 21/32 | 0.65625 |
| 11/64 | 0.171875 | 43/64 | 0.671875 |
| 3/16 | 0.1875 | 11/16 | 0.6875 |
| 13/64 | 0.203125 | 45/64 | 0.703125 |
| 7/32 | 0.21875 | 23/32 | 0.71875 |
| 15/64 | 0.234375 | 47/64 | 0.734375 |
| 1/4 | 0.25 | 3/4 | 0.75 |
| 17/64 | 0.265625 | 49/64 | 0.765625 |
| 9/32 | 0.28125 | 25/32 | 0.78125 |
| 19/64 | 0.296875 | 51/64 | 0.796875 |
| 5/16 | 0.3125 | 13/16 | 0.8125 |
| 21/64 | 0.328125 | 53/64 | 0.828125 |
| 11/32 | 0.34375 | 27/32 | 0.84375 |
| 23/64 | 0.359375 | 55/64 | 0.859375 |
| 3/8 | 0.375 | 7/8 | 0.875 |

("Decimal Equivalents," continued)

| | | | |
|-------|----------|-------|----------|
| 25/64 | 0.390625 | 57/64 | 0.890625 |
| 13/32 | 0.40625 | 29/32 | 0.90625 |
| 27/64 | 0.421875 | 59/64 | 0.921875 |
| 7/16 | 0.4375 | 15/16 | 0.9375 |
| 29/64 | 0.453125 | 61/64 | 0.953125 |
| 15/32 | 0.46875 | 31/32 | 0.96875 |
| 31/64 | 0.484375 | 63/64 | 0.984375 |
| 1/2 | 0.5 | 1 | 1.0 |

*

AN ALLIFLEX KITE (Hornbeam Mark I, for example) is three feet high and has a plan-form area, S, of 7.47 square feet. What multiplier must be used to increase the dimensions of the kite and double its area to 14.94 square feet? If your guess for the multiplier is 2.0, the kite will be six feet high; the area, S, 29.88 ft², four times 7.47—an overshoot by a factor of two. . . .

It is a hard fact of plane geometry that doubling the linear dimensions of a closed plane figure causes its area to increase by a factor of four, and therein lies the clue for creating this formula:

$$M_d = (M_a)^{\frac{1}{2}}$$

$$\text{or: } M_a = (M_d)^2$$

where M_d = a Dimension Multiplier

M_a = an Area Multiplier

Therefore, the multiplier has to be 1.4142.

TABLE II shows some relative area, length, and weight multipliers:

TABLE II

| M_a | M_d | Relative Weight* |
|-------|--------|------------------|
| 0.125 | 0.3536 | 0.0442 |
| 0.25 | 0.5 | 0.125 |
| 0.5 | 0.7071 | 0.3536 |
| 1.0 | 1.0 | 1.0 |
| 2.0 | 1.4142 | 2.8284 |
| 4.0 | 2.0 | 8.0 |
| 8.0 | 2.8284 | 22.6274 |

* If similar materials, similarly distributed, are used in the construction of the kites

*

If you are too poor or too tight to buy a metre rule, remember these constants:

1.0 mm = 0.03937"; 1.0 cm = 0.3937"; and 1.0 metre = 39.370". 1.0" = 25.4 mm. . . .

ERRATUM — Mathematical minions, please take notice: On page 8 of the December 1981 DATA-LETTER, the second part of the ellipse equation on the 8th line from the bottom of column two should have read as follows: $y = \pm b/a (a^2 - x^2)^{\frac{1}{2}}$ [more crow for Auld Ed].

