FUN WITH FUNDAMENTALS

Wreck creation

Problem 189 — You only need to fool a few of the people all of the time, as this month's problem by Robert McAnany of Lee's Summit, Mo., demonstrates.

Lights burned late at the Schtiff Mutual Insurance Tower as chief financial officer George Chizzle and actuary Eugene Schmizzle were discussing the revisions to their new automobile collision policy. The only situation that posed a problem were two-car collisions with uninsured drivers.

"My report states that 30% of all two-car collisions involve an uninsured motorist," quipped Chizzle. "Naturally we've got to budget for more than that!"

"Nonsense!" retorted Schmizzle. "The percentage is much lower! Why, 20% of all drivers are uninsured. That means they're involved in accidents only 20% of the time!"

Let 20% be an accurate percentage for the number of uninsured drivers, and assume equal driving skill between insured and uninsured motorists. What is the percentage of two-car collisions involving an uninsured driver?

Send your answer to:

Fun With Fundamentals
POWER TRANSMISSION DESIGN
1100 Superior Ave.
Cleveland, OH 44114-2543

Deadline is Dec. 10. Good luck!

Technical consultant, Jack Couillard, Menasha, Wis.

Solution to last month's problem 188 — You can read above and below the lines as well as between, if you answered **$983.28**. Here's the least common denominator:

You can divide each term in the equation by $^5/_{49}$ to get:

$$t = \frac{D_m}{V_m} = \frac{D_h}{V_h} \qquad (1)$$

Each term, $^1/_{[y \times (y+1)]}$, can be rewritten as $^1/_y - ^1/_{(y+1)}$. Rewrite the top equation to get:

$$D_m = D_h + \left(\frac{1}{12}\right) \text{rev}$$

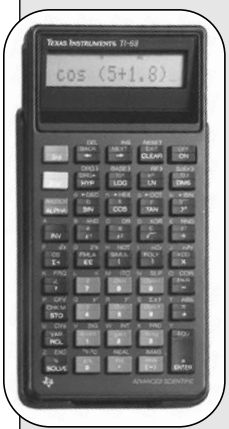
All except the first and last terms cancel. This gives us:

$$\frac{D_h + \left(\frac{1}{12}\right) \text{rev}}{} = \frac{D_h}{}$$

The reciprocal is 983.2775 or, for purposes of the story, $983.28. Horatio Puff had better find another accountant!

Contest winner — Congratulations to Ihtesham Shahid of Monroe, Mich., who won our September contest by having his name drawn from the 178 contestants who answered correctly out of a total of 179 entrants for that month. A TI-68 calculator is in the mail to him.

The TI-68 Advanced Scientific Calculator by Texas Instruments can solve five simultaneous equations with real and complex coefficients and has 40 number functions that can be used in both the rectangular and polar coordinate systems. Other functions include formula programming, integration, and polynomial root finding. The calculator also features a last-equation replay function that lets you double-check your work.



To enter the contest, send your answer on a postcard or letter to POWER TRANSMISSION DESIGN, 1100 Superior Ave., Cleveland, OH 44114-2543.

You can also receive a TI-68 and credit in the magazine if you send in an *original* problem with solution, and we publish it.