Hence

$$\lambda \frac{d^2y}{dx^2} = \frac{dT}{dx} = -m\omega^2 y$$

which, together with the fact that $y(0) = 0$ and $T(1) = 0$, gives the solution for y as

$$y(x) = \frac{1}{\alpha \cos \alpha l} \sin \alpha x \quad \left(\alpha = \omega \sqrt{\frac{m}{\lambda}} \right)$$

and

$$\text{length} = y(1) = \frac{1}{\alpha} \tan \alpha l$$

and

$$\text{tension at fixed end} = T(0) = \lambda(\sec \alpha l - 1)$$

where $\alpha = \omega\sqrt{(m/\lambda)}$."

As several readers pointed out, it is then interesting to ask what happens as $\omega \to \infty$.

My thanks, as always, go to all correspondents.

V.W.B.

Correspondence

Learning from a gleaning

DEAR EDITOR,

I well remember as a schoolboy arguing with my father, a businessman: he said 100% profit was impossible whereas I said it's quite simple 'Profit = Cost price'. Thus I discovered the difference between school percentage profit and 'profit on returns' as defined by the big bad world of commerce. What prompts this anecdote? The gleaning 'Crafty calculation' on page 53 of the March 1982 *Gazette* (3000 + 25% = 4000). This is in fact the answer obtained from keying in that calculation on a Casio calculator.

I presume the item was included as an example of innumeracy shown in the media, whereas it really is an example of mathematicians not realising how some parts of the business world actually use mathematics.

Yours sincerely,

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Reviews

Teaching teachers, teaching students, edited by L.A. Steen and D. J. Albers. Pp 136. 26 Swiss francs. 1981. ISBN 3-7643-3043-0 (Birkhäuser)

It is difficult in a short review to do justice to this useful contribution to teacher education. It originated in I.C.M.E. IV (the Fourth International Congress on Mathematical Education), held at the University of California, Berkeley in 1980. In just about four months the editors produced a selection of articles and reports from the conference spanning a wide range of topics of interest and concern to teachers of mathematics.

https://doi.org/10.2307/3615532 Published online by Cambridge University Press