Now

$$
\begin{aligned}
\sin(a+b) &= \frac{\text{PS}}{\text{PR}} \\
&= \frac{(\text{QT}+\text{TP})\text{RT}}{\text{QR}\cdot\text{PR}} \quad \text{by } (*) \\
&= \frac{\text{RT}}{\text{PR}}\frac{\text{QT}}{\text{QR}} + \frac{\text{TP}}{\text{PR}}\frac{\text{RT}}{\text{QR}} \\
&= \sin a \cos b + \cos a \sin b.
\end{aligned}
$$

Acknowledgment. The author thanks Leon Harkleroad of Cornell University for helpful advice.

———o———

Extending Bernoulli's Inequality

Ronald L. Persky, Christopher Newport University, Newport News, VA 23606

The standard statement of Bernoulli's inequality is: If $x \geq -1$ and n is a positive integer, then $(1+x)^n \geq 1+nx$. Clearly for $x < -2$ this does not hold for large odd values of n. What happens if $-2 \leq x < -1$? Add 1 to get

$$-1 \leq 1+x < 0. \tag{1}$$

Now multiply $-2 \leq x < -1$ by n and add 1, to obtain

$$1-2n \leq 1+nx < 1-n. \tag{2}$$

If $n=1$, Bernoulli's inequality is valid for any x. For $n \geq 2$, the graph

[	)	[	)
$1-2n$	$1-n$	-1	0

makes it easy to compare the location of $1+x$ of (1) and $1+nx$ of (2). From here it is easy to see why $(1+x)^n \geq 1+nx$. Hence, Bernoulli's inequality is valid for $x \geq -2$.

———o———

But Do You Like It?

This paper gives wrong solutions to trivial problems. The basic error, however, is not new.

Clifford Truesdell, *Mathematical Reviews* 12, p. 561.