

# Straight's Problem of the Week

GREED 534 – November 3, 2008

*Complete problem solution must be submitted  
on Monday, November 10, 2008*

When I was teaching high school, I had three textbooks arranged on my bookshelf at school – one for Course I, one for Course II, and one for Course III. They were in the usual order from left to right, side by side on one shelf.

One day when I arrived at school, I took down one of the books and discovered that a bookworm had been eating in it the night before. Upon further investigation, I found that the bookworm had begun just inside the front cover of the Course I book and had stopped just inside the rear cover of the Course III book, eating perfectly horizontally and perpendicular to the books' pages. (This was a very precise bookworm!)

If all the inside pages of each book measured  $2\frac{1}{4}$  inches, and all of the covers, front or back, were  $\frac{1}{8}$  inch thick each, then how far did the bookworm travel during its meal?