My dear Calculus Student,

I thought you'd be happy to know that your suggestions for the greenhouse worked just great, especially at first! We got it up and assembled in just one day, and it was a joy to behold. I took pictures of it for you that very night. (By the way, did you know that if you take a flash photograph of a huge pane of glass in the dark, you mostly get a big white spot in the middle of a dark background? Who would have figured?) I took about 35 exposures, and rushed them to the developers for you, but you really can't see much in them. Sorry.

And unfortunately there's not much to see of the greenhouse since I brought in the air circulator. As I was backing up the truck to bring the circulator to the east side of the house, I misjudged where the edge of the greenhouse was. It turns out that even a 5 mph bump can do pretty major damage to a pane of glass that large. The collision sure was spectacular! But as soon as I got out of the hospital, I knew I had to thank you for trying. It's not really your fault, so please don't blame yourself too much.

I figured you might want to help me with this little problem with the air circulator, seeing as it was your greenhouse design getting underneath my air circulator that caused this latest problem. Not (of course) that you could have foreseen this, or that you should hold yourself responsible, mind you.

What I really want to know is why the air circulator isn't working right, and--if it is working right--how long it will take to get rid of the pollen. See, I was trying to figure out if I really have hay fever or if it's dogs that I'm allergic to. I decided to conduct my own experiment, and, to make a really long story a little shorter, I now have a huge pollen problem in the house. The inspector from the Department of Health says I should figure out how to cut the concentration to about 1/10th of a percent of what it was after the explosion, at least if I want the house to be habitable. (Did I mention the explosion? Well, that's another story.) She recommended a powerful air circulator: one that's guaranteed to recirculate the air at a rate of one housefull per day. She also recommended a filter that's supposed to remove 100% of the pollen that goes through the circulator.
Prices being what they are, I wound up getting a similar but smaller model. It has the same type of filter, but only recirculates the air at half the rate. I figured that means it would circulate all of the air in my house in just two days. Problem solved!

But I just got back from the hospital--very conveniently, I had a two-day stay there. My brother Alan hooked up the circulator by himself after the greenhouse collapsed. Problem is, the pollen in the house seems just as bad as before.

I just got off the phone with the guy from the store where I bought it. I called him up to give him an earful about his shoddy workmanship, and let me tell you he was downright rude. He had the gall to tell me that even if this machine circulates all the air in my house every two days, and even if the filter is pulling out 100% of the pollen going through the circulator, it still won't clean all the pollen out of my house in 2 days. He said, "It doesn't actually circulate all your air every two days; it circulates your air at a rate of once every two days. There's a difference." This makes absolutely no sense to me.

I asked this mechanic (I use that term loosely), "Well, how long will it take to get the pollen down to 1/10th of a percent of where it was?" and he admitted he didn't know.

So I told this guy that I was going to write to you very smart folks to set him straight. He said, "You do that." Okay, so you can go ahead and figure it out for me. Right?

I guess you understand that I can't really have you over to dinner for a while, sorry. I guess that's "Al" for now!

Al L. Thumbs