Section 3

DAVE: Are you just leaving the library now? I saw you get there at 8:00 a.m.!

PETE: Yeah, I've been there all day.

DAVE: What for? They hired a cute new librarian or something?

PETE: I wish. No, it's the presentation that I will give in Environmental Science the day after tomorrow.

DAVE: What's it about? I heard you were really excited about the class. And Dr Schnee also calls you for the "arcane" questions, as he calls them.

PETE: It's about environmental damage in the Yucatan.

DAVE: Excuse me, what? Or is that where?

PETE: Yucatan. It's a state in Southeast Mexico.

DAVE: So what's happening there?

PETE: Agriculture is having a really adverse impact on the environment. There are too many farmers doing too much farming. *Q 21*
It's really destroying the forests and ruining the soil. Deforestation is a major problem there now.

DAVE: How did you learn about this? I don't recall Dr Schnee saying anything about it in lecture.

PETE: Yes, but my brother went there last month, you know, to look at the old cities the Maya Indians built. That's what first got me interested.

DAVE: Your brother Tom?

PETE: No, Dick, Harry's twin. Anyway, he told me how few trees there were now and how much empty ground that grows almost nothing. He said the place looked more like the desert than jungle in some parts. It brought environmental damage. *Q 22*
So I started looking for materials in the library. Here, look at this magazine.

DAVE: What's in it?

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PETE: It's an old issue of "National Geographic". It includes interviews with tourists who've been there in the past few years. It's pretty bad. See the photos? *Q 23*

DAVE: I see the photos, but one or two photos don't prove anything.

PETE: Then read what the article says. Right there. The first thing it points out is how soil samples show it is hard for anything to grow there. It says how an area of 21,000 square kilometres has lost most of its forest in the past ten years. See, there are graphs. As the number of farmers increases, the acres of forest have decreased. It's an inverse relation. *Q 24* *Q 25*

DAVE: So how big is that state? I'm sorry, but I've never really learned the metric system.

PETE: It's bigger than the state of Massachusetts!

DAVE: That's shocking! Anything else?

PETE: There's lots of else. Scientists say there's a "growing area" of about 10.5 square kilometres where nothing can grow at all. It's like the beginning of a desert. *Q 26*

DAVE: Oh yes. What Dr Schnee called "desertification". But, why can't anything grow there? I've never really studied soil chemistry.

PETE: I'm just starting to look into that subject, but my sister Marie is a geologist and she says the problem is that the soil has too much saline, with no plants helping to adjust the chemistry. Apparently, that's a common problem with soil types throughout areas with rainforest. Once you lose the plant cover, it's difficult to bring it back. Reforestation is almost impossible, even if the land is not being used for other purposes.

DAVE: Wait a minute. What is "saline"?

PETE: Saline is salt dissolved in water. Scientists who've gone there have taken measurements. They do this by gathering a sample of the soil and running a simple test that shows the ionisation of the solution. The Geology Department in our own university has reviewed the soil at the site, too. They're right. *Q 27* *Q 28*

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It looks pretty bad. The level of salinity is going up. But the plants that would solve that problem can't be planted in soil like that. There is a narrow spectrum of salinity in which the plants will grow.

DAVE: And once you pass the threshold, there is no way to put the problem right?

PETE: Exactly. It's possible that no one can do anything to stop the trend now. All because of human greed! I...

DAVE: Wait a second. How do you know these "scientists" can be trusted? What kind of reputation do they have? Are they reliable?

PETE: Oh they're definitely reliable. They include four members of the faculty from the Geology Department right here at MIT. Here, study these photographs and check the damage yourself. That's what Dr Horst who wrote this book here did. He's newly appointed, but Dr Schnee says he's brilliant. *Q 29*

DAVE: So, where are you going now?

PETE: I'm headed over to the Geography Department to borrow a map for my presentation. You know, this whole problem could have been avoided! The farmers there in the Yucatan... *Q 30*

DAVE: Uh, Pete??

PETE: What?

DAVE: Go take a break! Leave some studying for the rest of us.

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